

Euro Med-Checklist Notulae, 1

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ECKHARD VON RAAB-STRAUBE^{1*} & THOMAS RAUS¹ (ed.)

Euro+Med-Checklist Notulae, 1

Abstract

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This is the first of a new series of miscellaneous contributions, by various authors, where hitherto unpublished data relevant to both the Med-Checklist and the Euro+Med (or Sisyphus) projects are presented.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 new series merges the well-known Med-Checklist Notulae and the Euro+Med Notulae into one. The first instalment deals with the families *Amaranthaceae*, *Boraginaceae*, *Caryophyllaceae*, *Compositae*, *Euphorbiaceae*, *Fagaceae*, *Labiatae*, *Leguminosae*, *Rosaceae*, *Scrophulariaceae*, *Umbelliferae* and *Gramineae*. It includes new country and area records, taxonomic and distributional considerations for taxa in *Bromus*, *Buglossoides*, *Carduus*, *Centaurea*, *Cotoneaster*, *Daucus*, *Dianthus*, *Euphorbia*, *Hieracium*, *Melica*, *Onobrychis*, *Pilosella*, *Ptilotus*, *Silene*, *Stachys*, *Verbascum* and *Xanthium* and the validation and typification of names in *Helictotrichon*, *Hieracium*, *Pilosella* and *Quercus*.

Additional key words: Europe, vascular plants, distribution, taxonomy

Notice

The Med-Checklist and the Euro+Med PlantBase (or Sisyphus) projects are the two most capacious long-term supranational inventories of the vascular flora of Europe and the Mediterranean area. As projects bound to tackle a huge task with a small team of permanent collaborators, both are not complete – yet. Coordinated work on both checklists does continue, contributed by large specialist networks and many individual advisers from the entire area. For Med-Checklist, four out of six scheduled volumes have been published so far (Greuter & al. 1984, 1986, 1989; Greuter & Raab-Straube 2008), while Euro+Med PlantBase now provides free online

access to 154 families, corresponding to approximately 91 % of the Euro-Mediterranean flora of vascular plants (Euro+Med 2006+).

At the very beginning of both projects it proved necessary to establish a series of pertaining Notulae to serve as rapid means for the publication of nomenclatural novelties and new area and status records. The first instalment of the Med-Checklist Notulae appeared in 1980, under the editorship of Werner Greuter (Greuter 1980). From the fourth instalment onwards, Thomas Raus joined editorship of the series (Greuter & Raus 1981). Over a period of more than thirty years, from 1980 to 2012, this team edited 31 instalments of the series in total. The first instalment of the Euro+Med Notulae (Greuter & Raab-

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Straube 2005) was published in 2005, followed by five more issues until 2012.

From the outset of Euro+Med PlantBase being aware of the large geographical overlap between the two projects, the editors then still found it useful to keep the relevant series of Notulae separate for one particular reason: area definitions in Med-Checklist do not exactly correspond to those in Euro+Med PlantBase. For instance, the breaking up of former Yugoslavia into several independent states during the 1990s had not, for reasons of consistency with the Med-Checklist volumes published in the 1980s, been taken into account in the ongoing Med-Checklist Notulae. The Euro+Med PlantBase project, by contrast, reflected from the beginning the most recent political boundaries in the delimitation of geographical areas. However, Med-Checklist is by now an integrative component of Euro+Med PlantBase. Med-Checklist 2 (Greuter & Raab-Straube 2008) was already produced from a subset of Euro+Med PlantBase data. The continuation of both series of Notulae as independent from one another seems no longer appropriate, and the present editors see an advantage in uniting the two into one to render uncomplicated access for contributing authors possible.

Territories differently defined in Med-Checklist and Euro+Med PlantBase, respectively, are juxtaposed in Table 1. A succinct description of the Euro+Med Project, with a complete 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 (and last) instalment of the Euro+Med Notulae, see Greuter & Raab-Straube (2012). The standard notations of Med-Checklist have been explained in the introduction to that work (Greuter & Raab-Straube 2008: x–xi). For the previous (and last) instalment of the Med-Checklist Notulae, see Greuter & Raus (2012).

The retirement of Werner Greuter, richly-deserved initiator, founder and long-time first editor of both series, seems the appropriate moment to dare a break with previous practice and to continue the Notulae as a single series under a new, amalgamated title: the “Euro+Med Checklist Notulae”, with a restarted consecutive numbering. Much to their regret, the continuing editors respect Werner Greuter’s decision henceforth not to stay on board as a permanent editor of the new series. Policy of contents of

Table 1. Correspondance of incongruent Euro+Med PlantBase and Med-Checklist territories.

Euro+Med PlantBase	Med-Checklist	Area descriptor
AE(G)	AE	Greek East Aegean islands, including Kastellorizo
AE(T)	AE	Bozcaada Island
BH	Ju	Bosnia-Herzegovina
Bl(I)	Bl	Ibiza, including Formentera
Bl(M)	Bl	Mallorca
Bl(N)	Bl	Menorca
Cg	Ju	Montenegro
Ct	Ju	Croatia
Ga(C)	Ga	Channel Islands
Ga(F)	Ga	France
Ga(M)	Ga	Monaco
Hs(A)	Hs	Andorra
Hs(G)	Hs	Gibraltar
Hs(S)	Hs	Mainland Spain
Le	LS	Lebanon
Mk	Ju	The Former Yugoslav Republic of Makedonija
Si	Si+Me	Sicily, with Malta
Si(M)	Me	Malta
Si(S)	Si	Sicily and surrounding islands
Sl	Ju	Slovenia
Sr	Ju	Serbia with Kosovo
Sy	LS	Syria
Tu	Tu+An	Turkey (without AE(T))
Tu(A)	An	Asiatic Turkey (Anatolia)
Tu(E)	Tu	Turkey-in-Europe, including Gökçeada

both superseded series will be adopted unchanged even in the new series, thus gratefully going on with the spirit and merits of its honoured previous mentor.

The following have contributed entries to the present instalment: F. Bartolucci, D. Dimitrov, G. Gottschlich, T. Gregor, W. Greuter, R. Hand, D. Iamónico, A. Kleinstüber, C. Nepi, F. Prosser, E. von Raab-Straube, U. Raabe, Th. Raus, M. Ristow, A. Sennikov, J.-M. Tison, F. Verloove and R. Wißkirchen. The editors are also publishing data from notes left by the late H. Scholz, and new country records deduced from herbarium specimens annotated by him in B.

Amaranthaceae

Ptilotus spicatus Benth.

A Be(B): Belgium [surroundings of Verviers]: gravier de la Vesdre, Sep 1947, *Renard* (LG). – A xenophyte native to tropical Australia (Bean 2008: 249) and unknown to occur as an alien in Europe (see e.g. Tutin & Edmondson 1993). This collection was previously referred to as *Ptilotus* sp. by Verloove (2006), later followed by DAISIE (2008). It is represented by part of a flowering

stem. Important features are: leaves glabrous, the middle ones petiolate (petiole shorter than the blade), inflorescence terminal, ovoid and dense, flowers with glabrous tepals about 6.5 mm long. The specimen was initially misidentified as *Gomphrena globosa* L. by S. J. van Ooststroom (Leiden, the Netherlands), doubtlessly on behalf of its reddish inflorescence (eventually turning whitish when dry). All available identification keys (e.g. Benl 1971; Bean 2008) unequivocally point to *Ptilotus spicatus*. A similar species is *P. corymbosus* R. Br. which, however, differs in tepals 3.5–4.5 mm long. The cited record is obviously associated with the wool processing industry that flourished from the 19th century onwards in this area (see for instance Visé 1958), but has completely disappeared today. The taxon can be considered an ephemeral alien in Belgium.

D. Iamonico & F. Verloove

Boraginaceae

Buglossoides minima (Moris) R. Fern. [= *Lithospermum minimum* Moris]

A Bu: Bulgaria: In herbosis supra loco dicto Kjoskovete ad urbem Shumen, 30 Apr 1926, *Jordanov* (SO 60299). – This species is considered an endemic of Italy (Calabria, Sardinia and Sicily, Pignatti 1982a: 399). The status of the Bulgarian record is unclear, possibly referring to a temporary introduction.

D. Dimitrov

Caryophyllaceae

Dianthus sylvestris Jacq. subsp. *sylvestris*

+ Mk: Republic of Makedonija: Demir-Kapija, near the Javornitsa River, tributary of the Vardar River, 11 Apr 1947, *Kitanov* (SOM 168241); *ibid.*: by the Javornitsa River near the village of Dren, 11 Apr 1947, *Kitanov* (SOM 168174); *id.*: Mt Jablanitsa, on the ridge over the village of Labunishte, 2000 m, 6 Aug 1947, *Kitanov* (SOM 168239). – Subspecies not previously reported from the Republic of Makedonija. It is recognized particularly on its calyx length of 15–22 mm, as compared with 23–26 mm in *Dianthus sylvestris* subsp. *bertisceus* Rech. f. and *D. s.* subsp. *kozjakensis* Micevski (Micevski 1993: 366).

D. Dimitrov

Silene exaltata Friv.

+ Tu(E): Turkey-in-Europe (A1), Kırklareli: In vinetis ad urbem Lozengrad [Kırklareli], solo calcareo, 23 Jul 1899, *Mateev* (SO 21121, sub “*Silene otites*”; rev. Sourkova); *ibid.*: Kumbaga (Rodosto) [Tekirdağ], May 1913, *Nikolov* (SO 21120, sub “*Silene otites*”, rev. Dimitrov). – New addi-

tion to the flora of Turkey. The taxon is reported from adjacent Bulgaria and northern Greece, hence the occurrence in European Turkey is not unexpected.

D. Dimitrov

Compositae

Carduus aemilii Briq. & Cavill. in Burnat, Fl. Alpes Marit. 7: 87. 1931.

+ Ga(F): France, Alpes-Maritimes: Mouans-Sartoux, route du cimetière, Jul 1996, *Tison*; *ibid.*: Saint-Dalmas-le-Selvage, pentes sèches sous le village, Jun 2003, *Tison* (all herb. *Tison*). – A neglected taxon, likely close to *Carduus nigrescens* Vill. from SE France, but distinct in its more strongly folded and reflexed phyllaries with a short (7–10 mm) and wide (1 mm or more) apical part, somewhat resembling a small *C. nutans* L. It is scarcely variable and obviously not of hybrid origin. It was previously known only from collections in the Burnat herbarium (G-BU) from the Italian part of the Maritime Alps, cited in the protologue, but is not mentioned in the relevant Italian Floras and hence is absent from both Flora Europaea and Med-Checklist. The enigmatic data regarding *C. nigrescens* in Piemonte and Liguria, Italy (Conti & al. 2005: 68) might refer to *C. aemilii* instead.

J.-M. Tison

Centaurea formanekii Halácsy [= *Centaurea alba* subsp. *formanekii* (Halácsy) Dostál]

+ Bu: Bulgaria: Tundja Hilly Region, Nova Zagora district, by the village of Kamenovo near road to Sliven, in *Paliurus* shrub on calcareous substrate, 29 Jul 2010, *Dimitrov* (SO 107499). – New to Bulgaria, the cited locality is situated c. 500 km east of the locus classicus of this taxon in Central Makedonija, southeast of Veles. The total range of this taxon in the Central Balkans seems still to be imperfectly known.

D. Dimitrov

Hieracium amplexicaule subsp. *berardianum* (Arv.-Touv.) Zahn

? Gr: Reported for Greece in Tutin & al. (1976: 396, under *Hieracium petraeum* Bluff & Fingerh.), followed by Greuter (2008: 247). I doubt the occurrence of this taxon in Greece. Confirmed SE European records are actually known only from N of the Danube river.

G. Gottschlich

Hieracium atratum subsp. *subnigrescens* (Norrl.) Zahn

? Ge, ? It: This taxon was described from Norway, but most records belong to the Sudeten and Tatra mountains. Two records from the Alps (Zahn 1936–38: 183, Allgäuer Alpen, Germany, Rittnerhorn, Prov. Bozen, Italy) are doubtful and need revision.

G. Gottschlich

Hieracium bernardii Rouy subsp. *bernardii*

+ **It:** Italy, Toscana, Prov. Lucca: al passo di Croce, nel M. Corchia, su filladi quarzítico-muscov., 1175 m, 10 Aug 1980, *Marchetti* (ROV; rev. Gottschlich in 2005); *ibid.*: Garfagnana, presso Gragnana, verso Petrognola, su calcare, 585 m, 28 Jul 2004, *Marchetti* (ROV; rev. Gottschlich in 2008). – These records from the Alpi Apuane are the first ones for Italy. G. Gottschlich

Hieracium bifidum subsp. *seniliforme* (Zahn) Zahn

– **Ga(F):** The record for France given in Med-Checklist (Greuter 2008: 266) is erroneous. Zahn (1930–35: 653) cites several localities in Italy, Switzerland, Austria and Germany, but none in France. The only record from the Maritime Alps is on the Italian side.

E. von Raab-Straube & J.-M. Tison

Hieracium brevifolium subsp. *cesatianum* (Zahn) Gottschl.

+ **It:** Italy, Friuli-Venezia Giulia, Prov. Trieste: Trieste, in valle umbrosa Perciso, s.d., *Fries, Hierac. Eur. Exs No. 153c* (W, rev. Gottschlich); *ibid.*: in loc. lapidosis montis Greta ad olivum Terstenik, 1 Sep 1904, *Evers* (WU, rev. Gottschlich); *ibid.*: Rosandratal, Talgrund, illyrischer Laubwald, 130–200 m, 15 Aug 2005, *Dunkel 13605* (herb. Gottschlich 50924). – Taxon new to Italy, previously known only from the Slovenian and Croatian parts of the Istrian peninsula (Gottschlich 2003). G. Gottschlich

Hieracium caesium subsp. *laeticolor* Almq.

+ **It:** Italy, Friuli-Venezia Giulia, Prov. Udine: Pontebba, S-Seite Naßfeldpaß, Fichtenwald, 1500 m, 25 Jul 1993, *Gottschlich 22202* (herb. Gottschlich). – First record for Italy. G. Gottschlich

Hieracium caesium subsp. *vennaevallis* Zahn

+ **It:** Italy, Trentino-Alto Adige/Südtirol, Prov. Bozen: Gossensaß, Hänge am Weg zur Hühnerspiel-Hütte, bodensaure Rasen, *Gutermann 28330* (BOZ 16127; rev. Gottschlich in 2011). – First record for Italy. G. Gottschlich

Hieracium calcareum subsp. *morlonense* (Zahn) Greuter

– **It:** Erroneously mentioned for Italy in Med-Checklist (Greuter 2008: 277). However, the only record given by Zahn (1930–35: 70) is from Switzerland. G. Gottschlich

Hieracium combense Zahn

– **It:** Erroneously mentioned for Italy in Med-Checklist (Greuter 2008: 290). The only known local-

ity, given in the protologue (“Les Combes am Gr. S. Bernard”), belongs to the Swiss side of the Great St Bernard Pass. G. Gottschlich

Hieracium dentatum subsp. *crispulifolium* (Arv.-Touv.) Nägeli & Peter

– **It:** Wrongly mentioned for Italy in Med-Checklist (Greuter 2008: 298), the record being based on the alleged synonym *Hieracium ferrarianum* Belli (in Fiori & Paoletti 1904: 467). *H. ferrarianum* is in fact a synonym of *H. pulchellum* and does not belong to *H. dentatum* nor to one of its subspecies. No other record of *H. dentatum* subsp. *crispulifolium* from Italy is known.

G. Gottschlich

Hieracium dentatum subsp. *erigerontinum* (Arv.-Touv.) Zahn

– **It:** The only record for this taxon in Italy is based on “Praetutium: locis rupestribus partis orientalis montis Morrone” (Arvet-Touvet 1913). However, all the specimens of this exsiccatum (Huter, Porta & Rigo, ex itinere Italico III, no. 664) revised by me belong to *Hieracium villosum*.

G. Gottschlich

Hieracium diaphanoides subsp. *pseudumbrosum* Zahn

+ **It:** Italy, Trentino-Alto Adige/Südtirol, Prov. Trento: Civezzano, Prà dei Pomari, Orno-Ostryetum rado, 720 m, 18 Jun 1997, *Pujatti* (ROV; rev. Gottschlich in 1998). – The taxon previously not published for Italy (see Greuter 2008: 302). More than 40 records, mainly from South Tyrol, are now known. G. Gottschlich

Hieracium dragicola (Nägeli & Peter) Zahn subsp. *dragicola*

+ **It:** Italy, Friuli-Venezia Giulia, Prov. Trieste: Villa Opicina, große Doline 500 m WNW Orlek, W Grenzstein zu Slowenien, Kalkfeinschutt, 320 m, 12 Aug 1998, *Gottschlich 36025* & *Nydegger 36412* (BASBG). – First record of the typical subspecies for the Italian territory.

G. Gottschlich

Hieracium eriomallum J.-M. Tison & Greuter, **nom. nov.** ≡ *H. cordifolium* prol. [race, “forme”] *eriocerinthae* Rouy, Fl. France 9: 291. 1905 ≡ *H. cordifolium* subsp. *eriocerinthae* (Rouy) Zahn in Engler, Pflanzenr. 75: 152. 1921 [non *H. eriocerinthae* Fr. ex Arv.-Touv. in Ann. Soc. Linn. Lyon, ser. 2 34: 53. 1888, nom. illeg.]. – **Lectotype (designated here):** “Rochers schisteux et ombragés par des arbustes dans les montagnes près de Gèdre (Hautes-Pyrénées)”, 25 Jun & 10 Jul 1868, *Bordère* in Schultz, Herb. Norm. 1093bis, right specimen (LY-herb. Rouy). – “*H. cordifolium*” auct. plur. [non Lapeyr., Suppl. Hist. Pl. Pyrénées: 128. 1818].

– “*H. vernicosum*” auct. [non Arv.-Touv., Spicil. Rar. Hierac.: 39. 1886].

– “*H. cordifolium* subsp. *vernicosum*” auct. [non (Arv.-Touv.) Zahn in Engler, Pflanzenr. 75: 152. 1921].

This species is a regional endemic of the French and Spanish Central Pyrenees, growing mainly on shady limestone rocks. It is close to *Hieracium gouanii* Arv.-Touv., with which it was long grouped under *H. cordifolium* Lapeyr. (for example by Zahn 1921: 151–153). Both species belong to the few known diploid *Hieracium* species (Mateo 2007). *H. eriomallum*, however, is well distinct from *H. gouanii* in having much more hairy and less coriaceous leaves, and usually 1–3 cauline leaves instead of 3–8. Whereas *H. gouanii* is limited to the eastern part of the Pyrenees, *H. eriomallum* grows mainly in the central-western part of the range.

The nomenclatural history of this species is complex. One aspect, which has already been sorted out during the preparation of the Med-Checklist treatment of *Compositae* (Greuter 2008), concerns the nomenclature of *Hieracium eriocerinthae*. That name was originally proposed by Fries (in Fries & Lagger, Hieracia Eur. Exsicc.: No. 20bis. 1861–1865), where it appears in print but without a validating description. The corresponding plants had been collected by Bordère in the Bois de Bourg near Gèdre in the French Pyrenees, and judging from Bordère’s specimens studied by us (JMT) in various herbaria (unfortunately not including the Fries exsiccatum itself) they coincide with our species. The name *H. eriocerinthae* was first validated by Arvet-Touvet in 1888, but in the protologue the legitimate *H. phlomoides* Froel. (Froelich 1838: 233) was included as synonym, rendering *H. eriocerinthae* illegitimate and automatically typified by the type of *H. phlomoides*, the correct name of a different species. Rouy (1905), when treating *H. eriocerinthae* as a “forme” of *H. cordifolium*, excluded the type of *H. phlomoides* from that taxon, which accordingly is treated as newly described by him (the rank termed “forme” in the earlier volumes of the *Flore de France* was subsequently stated to be that of “race” (proles) – see Rouy 1908: 2–3, footnote.)

At some point during the preparation of the Med-Checklist *Hieracium* treatment the name *H. eriomallum* had been coined as a replacement name, based on Rouy’s proles, because the epithet *eriocerinthae* was not available at the rank of species due to the existence of the illegitimate name *H. eriocerinthae*. The idea to publish *H. eriomallum* was subsequently abandoned, because of the decision to treat the taxon as a subspecies of the much earlier *H. cordifolium* in Med-Checklist, following Zahn. By some unexplained accident the unpublished name “*H. eriomallum* Greuter” found its way into the *Global Compositae Checklist* (Flann 2009+) and hence into *The Plant List* (2010), in both cases as an accepted species name.

It now appears that the name *Hieracium cordifolium* Lapeyr. cannot be used. Its type is the single specimen

cited in the protologue and extant in the Lapeyrouse herbarium. It is therefore the obligatory **lectotype** and is **designated here** as such: “Babar près St Bèat”, 1816, *Marchand* (TLJ). The plant is unrelated to the species to which it has since been generally applied but instead belongs to *H. umbellatum* L. There is a second binomial, *H. vernicosum*, that Zahn associated with our species, considering it as representing a separate subspecies. But this cannot be accepted either, because its type (Rocamayor, La Sa [Sierra] del Mont, Gerona, in saxosis, 500 m, Jun 1881, *Vayreda*, GRM, rev. Tison) represents *H. gouanii* – a name of equal priority, which we here formally accept in preference to its synonym: *H. gouanii* Arv.-Touv. (Spicil. Rar. Hierac.: 47. 1886; = *H. vernicosum* Arv.-Touv., l.c.: 39, **syn. nov.**). There being no other name available for the species in question, we have decided to use and validate the one that already has been accepted in some online databases. J.-M. Tison & W. Greuter

Hieracium hastile* subsp. *phlomoidiforme (Zahn) Greuter

– **Ga(F)**: The record for France given in Med-Checklist (Greuter 2008: 327) is erroneous. All localities mentioned in the protologue (Zahn 1921) are located in the Spanish Pyrenees.

E. von Raab-Straube & J.-M. Tison

Hieracium humile Jacq.

? **Gr**: Given for Greece in Greuter (2008: 330), although reported only with doubt by Parent (2005, as “*Hieracium* cf. *humile*”). We query the occurrence in Greece of this oceanic species.

G. Gottschlich & Th. Raus

Hieracium hypochoeroides* subsp. *wiesbaurianum (R. Uechtr.) Greuter

– **Bu, Co, Ga, It, Ju, Sa**: Mentioned in Med-Checklist (Greuter 2008: 335), but absent from territories adjoining to the Mediterranean. All records by Zahn (1930–35: 334) and in relevant basic floras of the Med-Checklist area belong to other taxa of the *Hieracium hypochoeroides* aggregate. *H. hypochoeroides* subsp. *wiesbaurianum* is an endemic taxon from the surroundings of Vienna (E Austria).

G. Gottschlich

Hieracium inuloides* subsp. *setosifrons Zahn

– **It**: Mentioned in Zahn (1936–38: 484) with the locality “Val della Miniera bei Limone”, but originally, in Zahn (1916), given as “Vallée della Minière, près St.-Dalmas de Tende” (= France). No other record from Italy is known.

G. Gottschlich

Hieracium jordanii* subsp. *yesianum (Arv.-Touv.) Zahn

– **It**: Absent from Italy although mentioned for the country in Med-Checklist (Greuter 2008: 339).

Already Fiori (1925–29) classified the only record from Aosta as erroneous. No other record from Italy is known. G. Gottschlich

Hieracium juratzkae Zahn

– **It:** The only record given for Italy (Zahn 1922–38; Pampanini 1958) is a misidentification of *Hieracium lachenalii* (PAD, rev. Gottschlich). G. Gottschlich

Hieracium lachenalii subsp. *cruentifolium* (Dahlst. & Lübeck) Zahn

? **It:** Taxon distributed in Scandinavia and North Central Europe. Records from Italy (given in Zahn 1922–38, Fiori 1925–29) probably belong to other taxa. G. Gottschlich

Hieracium laevigatum subsp. *albaredanum* Zahn

– **Ga(F):** The record for France given in Med-Checklist (Greuter 2008: 358) is erroneous. Zahn (1936–38: 425) mentioned only the type locality in Italy. E. von Raab-Straube & J.-M. Tison

Hieracium laevigatum subsp. *griseovirens* Zahn (= *Hieracium laevigatum* subsp. *nantuaticum* [“*nantuaticum*”]) Zahn, nom. illeg.)

– **Ga(F):** The record for France given in Med-Checklist (Greuter 2008: 360, as *Hieracium laevigatum* subsp. *nantuaticum*) is erroneous. Zahn (1936–38: 436) mentioned only localities in the cantons of Valais and Vaud, Switzerland, as well as in Germany and Austria. E. von Raab-Straube & J.-M. Tison

Hieracium leucophaeum subsp. *glaucoporrectum* Wilczek & Zahn

– **Ga(F):** The record for France given in Med-Checklist (Greuter 2008: 367) is erroneous. Zahn (1930–35: 167) mentioned only the type locality in the Valais, Switzerland. E. von Raab-Straube & J.-M. Tison

Hieracium levicaule subsp. *fissicladum* (Zahn) Zahn

– **Ga(F):** The record for France given in Med-Checklist (Greuter 2008: 369) is erroneous. Zahn (1922–38) cited localities in Italy (South Tyrol), Austria and Germany, but none in France. E. von Raab-Straube & J.-M. Tison

Hieracium maculatum subsp. *commixtum* (Jord.) Zahn

– **It:** Mentioned for Italy in Med-Checklist (Greuter 2008: 376), but Italian records for this taxon refer to *Hieracium intersitum* Boreau, which deserves at most varietal rank and in turn is a synonym of *H. levicaule* Jord. G. Gottschlich

Hieracium murorum subsp. *kassanum* Zahn

– **Ga(F):** The record for France given in Med-Check-

list (Greuter 2008: 387) is erroneous. Zahn (1930–35) mentioned records from Italy (South Tyrol), Germany and Hungary, but none from France. E. von Raab-Straube & J.-M. Tison

Hieracium murorum subsp. *lorynsicum* Krafft & Zahn

+ **It:** Italy, Trentino-Alto Adige/Südtirol, Prov. Bozen: Sterzing, Auffahrt zum Jaufenpass von der Nordseite, Fichten-Bergwald, Zwergstrauchheiden, 3 Aug 2010, *Dunkel* 26370 (herb. Dunkel). – First record for Italy. G. Gottschlich

Hieracium murorum subsp. *subcoriifolium* Zahn

– **Ga(F):** The record for France given in Med-Checklist (Greuter 2008: 392) is erroneous. All localities mentioned in the protologue (Zahn 1916) and cited again by Zahn (1930–35: 414) are located on the Italian side of the Maritime Alps. E. von Raab-Straube & J.-M. Tison

Hieracium murorum subsp. *torticeps* (Dahlst.) Zahn

+ **It:** Italy, Trentino-Alto Adige/Südtirol, Prov. Trento: Caoria (Priemiero – Vanoi), muro lungo la strada, 900 m, 10 May 1994, *Festi* (ROV). – First record for Italy. G. Gottschlich

Hieracium murorum subsp. *viridicollum* (Boreau) Zahn

+ **It:** Italy, Trentino-Alto Adige/Südtirol, Prov. Trento: sentiero Faserno – Malga Vacile, scarpata erbosoghiaiosa, 1680 m, 5 Jul 1998, *Prosser* (ROV). – First record for Italy. G. Gottschlich

Hieracium pallescens subsp. *macranthoides* (Zahn) Gottschl.

– **Ga(F):** The record for France given in Med-Checklist (Greuter 2008: 403) is erroneous. Zahn (1930–35: 734–735) mentioned records from Italy, Switzerland, Germany, Austria and Slovenia, but none from France. The westernmost localities of this taxon are found in Graubünden, Switzerland. E. von Raab-Straube & J.-M. Tison

Hieracium pilosum subsp. *padolanum* (Pamp. & Zahn)

Gottschl., **comb. nov.** = *Hieracium morisianum* subsp. *padolanum* Pamp. & Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 99. 1930.

Hieracium planchonianum Timb.-Lagr. & Loret

? **It, – Sa:** In Med-Checklist (Greuter 2008: 417) this species is mentioned for Sardinia with *Hieracium planchonianum* subsp. *planchonianum* and for mainland Italy with *H. p.* subsp. *setibifidum* (Arv.-Touv. & Gaut.) Breistr. However, the only record of *H. p.* subsp. *planchonianum* (leg. Sardinia) is a misidentification of *H. leiopogon* subsp. *iolai* (Arrigoni) Greuter, and the

records for Piemonte and M. Pollino, given by Arvet-Touvet (1913), are doubtful.

G. Gottschlich

Hieracium plantagineum subsp. ***gapense*** Zahn

? **It:** The two records for Italy given in Belli (1904, as *Hieracium dentatum* var. *gapense*) and taken up by later authors (Fiori 1925–29, Zahn 1930–35: 144, Greuter 2008: 417), one from the Lepontine Alps (not seen by Zahn) and the other one from the Northern Apennines, are both doubtful (see also Conti & al. 2005: 109). Since the typical subspecies is known only from France, the occurrence of the species in Italy is doubtful as well.

G. Gottschlich

Hieracium porrectum subsp. ***subelongatum*** (Nägeli & Peter) Zahn

? **It:** A record given by Nägeli & Peter (1886) for M. Tambura (Alpi Apuane) is doubtful.

G. Gottschlich

Hieracium sabaudum subsp. ***obliquum*** (Jord.) Zahn

? **Gr:** I query the record of this subspecies for Greece given in Tutin & al. (1976: 409, sub *Hieracium obliquum* Jord., and given only for “Makedonia” by Hayek 1928–1931: 958). Populations of the species reported from scattered localities in Greek Makedonia, Epirus and Thessaly (Nomoi of Drama, Kozani, Ioannina, Larisa, Magnisia) are likely to belong to the typical subspecies.

G. Gottschlich

Hieracium saxatile subsp. ***coriifolium*** (Nägeli & Peter) Greuter

– **It:** The only record given for Italy (Zahn 1930–35: 629, Pampanini 1958, sub *Hieracium saxatile* subsp. *subcoriifolioides*), is a misidentification of *H. laevigatum* (PAD, rev. Gottschlich).

G. Gottschlich

Hieracium serratum subsp. ***schwarzii*** Zahn

– **It:** The only record given for Italy (Val Fraele, leg. M. Longa in Hb. Fenaroli, TR, rev. Gottschlich) is a misidentification of *Hieracium dentatum* Hoppe.

G. Gottschlich

Hieracium tenuiflorum subsp. ***austrosilvularum*** (P. Rossi & Zahn) Gottschl., **comb. nov.** ≡ *Hieracium murorum* subsp. *austrosilvularum* P. Rossi & Zahn in Ascher-son & Graebner, Syn. Mitteleur. Fl. 12(2): 483. 1931. – This taxon and the four following ones were originally described under *H. murorum* grex *tenuiflorum*, now *H. tenuiflorum*.

G. Gottschlich

Hieracium tenuiflorum subsp. ***glaucoviolascens*** (Bornm. & Zahn) Gottschl., **comb. nov.** ≡ *Hieracium*

murorum subsp. *glaucoviolascens* Bornm. & Zahn in Engler, Pflanzenr. 82: 1541. 1923.

Hieracium tenuiflorum subsp. ***pictoprasinum*** (Fen. & Zahn) Gottschl., **comb. nov.** ≡ *Hieracium murorum* subsp. *pictoprasinum* Fen. & Zahn in Bot. Jahrb. Syst., Beibl. 138: 24. 1927.

Hieracium tenuiflorum subsp. ***pseudomerianum*** (P. Rossi & Zahn) Gottschl., **comb. nov.** ≡ *Hieracium murorum* subsp. *pseudomerianum* P. Rossi & Zahn in Ascher-son & Graebner, Syn. Mitteleur. Fl. 12(2): 482. 1931.

Hieracium tenuiflorum subsp. ***sebini*** (Fen. & Zahn) Gottschl., **comb. nov.** ≡ *Hieracium murorum* subsp. *sebini* Fen. & Zahn in Bot. Jahrb. Syst., Beibl. 138: 24. 1927.

Hieracium tephrosoma subsp. ***brachypogon*** (Zahn) Zahn

+ **It:** Italy, Trentino-Alto Adige/Südtirol, Prov. Trento: Presanella, lungo il sent. 277 (Malga Ritorto – Lago Ritorto), Alnetum viridis, 2020 m, 1 Aug 2001, Pujatti (ROV). – First record for Italy.

G. Gottschlich

Hieracium tephrosoma (Nägeli & Peter) Zahn subsp. ***tephrosoma***

+ **It:** Italy, Trentino-Alto Adige/Südtirol, Prov. Bozen: Sterzing, Jaufenpass W Enzianhütte, Straßenrand, Silikatfels, 13 Aug 2002, Gottschlich 46669, Heinrichs & Brandstätter (GOET; WTU; herb. Brandstätter; herb. Gottschlich). – First record for Italy.

G. Gottschlich

Hieracium toutonianum (Zahn) Zahn

? **It:** The report by Zahn (1936–38: 120) “ähnlich Süditalien!” (“similar in Southern Italy!”) and by Fiori (1925–29) “Abr. med. (ex Zahn)” [sic!], taken up in Med-Checklist (Greuter 2008: 468), should be considered a doubtful record. It is not clear to which plants these indications refer.

G. Gottschlich

Hieracium viscosum subsp. ***oxygonum*** Zahn

– **It:** The record for Italy given in Med-Checklist (Greuter 2008: 484) is erroneous. Zahn (1936–1938: 404, sub *Hieracium viscosum* subsp. *euoxygonioides* Zahn) mentions localities from the French side of the Maritime Alps and from the Eastern Pyrenees, but none from Italy.

G. Gottschlich

Hieracium vollmannii subsp. ***grimsulicola*** Zahn

+ **It:** Italy, Trentino-Alto Adige/Südtirol, Prov. Trento: Lagorai, Passo Palù – Malga Cagnon, 1980 m, 15 Jul 2008, Lasen (herb. Lasen, rev. Gottschlich in 2011). – First record for Italy.

G. Gottschlich

Pilosella auriculoides (Láng) Arv.-Touv.

– **It:** Absent from Italy. Mentioned erroneously by Pignatti (1982b): “Alpi (?)”, followed by Bräutigam & Greuter (2008: 566). G. Gottschlich

Pilosella bauhini (Schult.) Arv.-Touv. subsp. *bauhini*

? **Gr,** ? **AE(G):** Occurrence of this subspecies in mainland Greece needs confirmation. Previous literature records of *Hieracium bauhini* Schult. (e.g. Zahn 1922–1930: 333; Boissier 1875: 862, as *H. praealtum* Vill.; Halácsy 1902: 236; Strid & Tan 1991: 611), as far as based on seen material, represent *Pilosella bauhini* subsp. *graeca* (Nägeli & Peter) Gottschl. and *P. b.* subsp. *magyarica* (Peter) S. Bräut., respectively. The record from Samos (Christodoulakis 1986: 224, under *H. praealtum* subsp. *bauhini* (Schult.) Petunn.) is still in need of revision. G. Gottschlich

Pilosella blau (B. Schütt & Zahn) Gottschl., **comb. nov.**

≡ *Hieracium blau* [“blauii”] B. Schütt & Zahn in Repert. Spec. Nov. Regni Veg. 30: 237. 1932

Pilosella cymiflora (Nägeli & Peter) S. Bräut. & Greuter

– **Gr:** Already deleted for the flora of Bulgaria by Vladimirov (in Greuter & Raus 2007: 437), this taxon should also be excluded from the flora of Greece, if *Pilosella cymiflora* (syn. *Hieracium spurium* Arv.-Touv., non Brügger) is considered as distinct from *P. kalksburgensis* (Wiesb.) Soják (syn. *H. laschii* Zahn). It is given for “N & C Europe”, including Greece, in Tutin & al. (1976: 373) under “*Hieracium spurium* Chaix ex Froel. in DC.” G. Gottschlich & Th. Raus

Pilosella fuscoatra (Nägeli & Peter) Soják

– **It:** Mentioned by Pignatti (1982b): “Alpi RR” and in Med-Checklist (Bräutigam & Greuter 2008: 602), but no record from Italy is known. G. Gottschlich

Pilosella glomerata (Froel.) Fr.

– **Gr:** The occurrence in Greece (as given in Greuter 2008: 604) is given as doubtful by Tutin & al. (1976: 373, under “*Hieracium ambiguum* Ehrh.”). No material could be located to substantiate this record. G. Gottschlich

Pilosella kralikii (Rouy) J.-M. Tison, **comb. nov.** ≡ *Hieracium auricula* prol. [race, “forme”] *kralikii* Rouy, Fl. France 9: 241. 1905. – **Neotype (designated here):** “*Hieracium Kralikii* Rouy, Coscione, 23/7”, *Kralik* (LY-herb. Rouy, rev. Tison). This specimen is arguably an original element for the name, fitting the protologue well, but its lectotype status cannot be proved beyond doubt because of the lack of the collecting year.

This species comprises the Corsican and Sardinian

plants previously called *Hieracium sardoum* (Belli) Pignatti or mistakenly included in *H. lactucella* Wallr. (currently *Pilosella lactucella* (Wallr.) P. D. Sell & C. West). It is distinct from all populations of the latter, including those of the Apennines and Pyrenees, especially in its stem usually branching (if at all) close to the middle or in the lower half. This trait is not always visible, because more than 90% of the individuals are dwarf plants with a single capitulum. Other diagnostic features include flat leaves, rather numerous long hairs especially at the base of the plant, and partly subterranean stolons with reduced leaves, already mentioned as distinctive by Rouy (l. c.).

The name *Hieracium kralikii* (Rouy) A. W. Hill, accepted by Hill (1926: 101), has priority over *H. sardoum* (Belli) Pignatti (1977: 57). Other names often used for this species (*H. micranthum* Nägeli & Peter, *H. nanum* Scheele, *H. serpyllifolium* Fr.) refer to *P. lactucella*; whereas *H. soleirolianum* Arv.-Touv. & Briq., the name accepted for this plant by Arrigoni (1987), in fact represents a different species, strictly endemic to Corsica, with long sericeous leaves and very short to absent stolons (type: “Corse: Mont Rotundo: dans les bois de pins sur la rive gauche du Timozzo, vers 1200 m”, 7 Jun 1877, Gillot, GRM, rev. Tison). J.-M. Tison

Pilosella lactucella (Wallr.) P. D. Sell & C. West

? **Gr:** Records for Greece (Tutin & al. 1976: 369, Greuter 2008: 617) are based on Nadji (1892, under “*Hieracium auricula*”) who obviously misidentified specimens of *Pilosella piloselloides* (Vill.) Soják or *P. bauhini* (Schult.) Arv.-Touv. The description of “*H. auricula* L.” in Halácsy (1902: 234) indeed matches *P. lactucella* but is taken from literature and original material from Greece had not been seen. G. Gottschlich

Pilosella piloselloides subsp. *praealta* (Gochnat) S. Bräut. & Greuter

– **Gr:** All records in Halácsy (1902: 236, under *Hieracium florentinum* var. *praealtum* Vill.) refer to *Pilosella piloselloides* s.str. G. Gottschlich

Pilosella pseudopilosella Soják

? **It:** A record from Piemonte (as *Pilosella pseudopilosella* subsp. *plantaginoides*) does not belong to *P. pseudopilosella*, but to *P. portae* (T. Durand & B. D. Jacks.) Mateo & Greuter. From the two known records from Liguria (Kap Noli, leg. Jaquet, and S. Giacomo near Ventimiglia, leg. Burnat), the latter belongs to *P. officinarum* (G-BU, rev. Gottschlich). G. Gottschlich

Pilosella tephrocephala (Vuk.) Soják

– **It:** The records given for the Abruzzi Apennines (Zahn 1922–1930: 350, as *Hieracium tephrocephalum* subsp. *macrophyton* and *H. t.* subsp. *macranthiforme*), belong to *Pilosella visia-*

nii and *P. macranthiformis*, respectively (see Gottschlich 2009). As these are the only records of the species for Italy (Pignatti 1982b: 293, Conti & al. 2005: 111), this taxon is to be deleted for the country. G. Gottschlich

Xanthium pungens Wallr.

N Gr, AE(G): Greece, Peloponnisos, Nomos of Argolis, Eparchia of Nafplia: Paralia Kantias (37°31'15"N, 22°57'59"E), an der Straße Drepano-Iria bei der Tankstelle, Straßenrand, 8 Oct 2011, *Raabe* (MSTR, herb. Wißkirchen; det. Wißkirchen); id., East Aegean Islands, Nomos of Dodekanisos, Eparchia of Rhodos: Rhodos, Ostküste, Stegna E Archangelos (36°12'20"N, 28°08'22"E), Sandstrand, mäßig zahlreich, 3 m, 15 May 2003, *Kleinsteuber 288/03* (KR., det. Wißkirchen). – *Xanthium pungens* is a native of warm-temperate eastern North America. In Europe, it was first found in Germany around 1840 (Wallroth 1844), later in many other countries of central and northern Europe, but mostly only temporarily. By now it is an invasive alien in Africa, Australia and India. In Greece, *X. pungens* had been overlooked so far but is likely to be already established there. Populations intermediate between *X. pungens* and the widespread *X. orientale* L. s.l. (fruits similar to those of *X. pungens* but hairy especially on the beaks) were observed and collected in the southern Peloponnese: Nomos of Messinia, Eparchia of Lakemon, Piso Dendra E Kalamata (37°01'27"N, 22°12'46"E), Gärten E des Dorfes am Weg nach Pigadia, 800 m, 9 Oct 2013, *Raabe* (MSTR, herb. Wißkirchen; det. Wißkirchen).

R. Wißkirchen, U. Raabe & A. Kleinsteuber

Euphorbiaceae

Euphorbia esula L. subsp. *esula*

+ Bu: Bulgaria, Sofia region: By the Sofia Iztok TPP, 18 Apr 2012, *Dimitrov* (SOM 168882, 168883). – This subspecies is recognized by its oblanceolate, widely ovate or obovate, obtuse stem leaves and its usually 8–17 inflorescence rays. This subspecies was not known to occur in Bulgaria, according to Kuzmanov (1979: 162).

D. Dimitrov

Fagaceae

Quercus petraea subsp. *polycarpa* (Schur) Raus, **comb. nov.** ≡ *Quercus sessiliflora* subsp. *polycarpa* (Schur) Nyman, *Consp. Fl. Eur.*: 661. 1881 ≡ *Quercus polycarpa* Schur in *Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt* 2: 174. 1851 [= *Quercus iberica* Steven ex M. Bieb., *Fl. Taur.-Caucas.* 2: 402. 1808 ≡ *Quercus*

petraea subsp. *iberica* (Steven ex M. Bieb.) Krassiln. in *Novosti Sist. Vyssh. Rast.* 5: 86. 1968; = *Quercus dshorochensis* K. Koch in *Linnaea* 22: 328. 1849 ≡ *Quercus petraea* subsp. *dshorochensis* (K. Koch) Menitsky in *Novosti Sist. Vyssh. Rast.* 5: 86. 1968; = *Quercus lanuginosa* subsp. *medwediewii* A. Camus, *Chênes, Atlas* 2: 41. 1935 ≡ *Quercus petraea* subsp. *medwediewii* (A. Camus) Menitsky in *Novosti Sist. Vyssh. Rast.* 5: 87. 1968; – “*Quercus dalechampii*” auct., non Ten., *Semina* 1830: 15. 1830].

Nyman (1978–1882) is the first to have used the rank of subspecies for this taxon under *Quercus sessiliflora* Salisb. Therefore, Krassilnikov’s and Menitsky’s later infraspecific combinations under *Q. petraea* (Matt.) Liebl., as accepted in Strid & Tan (1997: 47) and Frodin & Govaerts (2011), are redundant when applied for the same taxon; hence the correct combination is proposed here. Records of “*Q. dalechampii*” from the Balkan Peninsula refer to this taxon (ranging eastwards to N Iran, see Davis 1982: 669). Following Di Pietro & al. (2012: 1315), all records of *Q. dalechampii* when interpreted as a species taxonomically close to *Q. petraea* (with twigs and abaxial leaf surfaces glabrous to glabrescent, petioles grooved above and scales of cupules tuberculate) and reported from various SE European and SW Asian countries (see, e.g. Tutin & al. 1993: 74, Czerepanov 1995: 264), are likely to represent *Q. petraea* s.l. *Q. dalechampii* Ten., as lectotypified by Di Pietro & al. (2012: 1313), is close to *Q. pubescens* Willd. and endemic to southern Italy.

Th. Raus

Labiatae

Stachys cretica L. subsp. *cretica*

+ Bu: Bulgaria, western Rhodope Mountains: S part of Mt Dabrash, by the village of Ablanitsa, on the right bank of the Bistritsa River, open grassland with *Juniperus oxycedrus* L. in calcareous places, 24 Sep 2011, *Dimitrov* (SOM 167958). – No previous published records from Bulgaria of this taxon are known. Unlike *Stachys cretica* subsp. *cassia* (Boiss.) Rech. f. (with leaf blades basally rounded to almost cordiform) and *S. c.* subsp. *bulgarica* Rech. f. (with leaf blades basally widely cuneiform), the typical subspecies exhibits a simple or slightly branched stem with basally narrowly cuneiform leaves.

D. Dimitrov

Leguminosae

Onobrychis alba subsp. *calcarea* (Vandas) P. W. Ball

+ Tu(E): Turkey-in-Europe (A1), Kırklareli: In vineto ad urbem Lozengrad [Kırklareli] solo calcareo, 30 Jul 1899, *Mateev* (SO 44216, det. Stojanov). – The taxon is reported from adjacent Bulgaria and northern Greece, hence the occurrence in European Turkey is not unexpected. D. Dimitrov

Rosaceae

Cotoneaster antoninae Juz.

+ **Rf(E)**: Russia, Bashkiria: S Urals, W side of Big Iremel Mt., above forest belt, sparsely on rocks, 1350 m, 3 Aug 1940, *Tikhomirov* (LE); Bashkiria, in alpine zone of Iremel Mts., 15 Jun 1893, *Litvinov* (LE). – In the Urals, *Cotoneaster antoninae* has been frequently confused with *C. cinnabarinus* Juz. The earlier records under the misapplied name *C. uniflorus* auct. non Bunge (Gorčakovsky 1966) and the recent treatments as the presumed Uralian endemic *C. uralensis* B. Hylmö & J. Fryer (Knjazev 2007) are mostly collective and include both species. The taxonomic identity of *C. uralensis* as a synonym of *C. cinnabarinus* has been revealed by Sennikov (2011). Gladkova & Krügel (2001) distinguished between the two species and reported *C. cinnabarinus* from the Polar, Northern and Middle Urals and *C. antoninae* throughout the Urals. According to herbarium specimens at LE revised during the preparation of *Atlas Florae Europaeae*, the southern limit of the distribution of *C. cinnabarinus* includes the northern part of the Middle Urals only (Sverdlovsk Region), whereas *C. antoninae* goes farther to the South Urals and has isolated localities on the highest peaks of Iremel Mts. in Bashkiria. This is the first confirmed record of *C. antoninae* from Bashkiria, as both Pojarkova (1939) and Gladkova & Krügel (2001), who correctly identified the specimens in collections, reported no details of distribution in their publications. The earlier records of *C. uniflorus* auct. from Bashkiria (Kulagin 1989) belong to a different species, *C. integerrimus* Medik. (syn. *C. mamajevii* Knjazev, see Sennikov 2011). A. N. Sennikov

Scrophulariaceae

Verbascum chaixii Vill. subsp. *chaixii*

+ **Gr**: Greece, E Macedonia, Nomos & Eparchia of Kavala: the city of Kavala, in rocks above the port, together with *Erigeron sumatrensis* Retz., *Symphytotrichum squamatum* (Spreng.) G. L. Nesom and *Silene flavescens* subsp. *thessalonica* (Boiss. & Heldr.) Nyman, 10 Sep 2011, *Dimitrov* (SOM 168100). – Only *Verbascum chaixii* subsp. *austriacum* (Roem. & Schult.) Hayek had been reported with certainty from Greece so far. The typical subspecies differs particularly on the morphology of the basal leaves. They are clearly pinnately incised and abaxially greyish-tomentose (irregularly serrated but not incised or dissected and with green underside in *V. c.* subsp. *austriacum*). In southern Europe, the

typical subspecies is known to occur from Spain to former Yugoslavia (Ferguson 1972: 216).

D. Dimitrov

Verbascum niveum Ten. subsp. *niveum*

+ **Bu**: Bulgaria, western Rhodope Mountains: Mt Dabrash, by the village of Zizevo, 22 Sep 2011, *Dimitrov* (SOM 167951). – No previously published records from Bulgaria, but the taxon is known to occur in adjacent Serbia. Similar to *Verbascum macrurum* Ten. (syn. *V. niveum* subsp. *pannosiforme* (Stoj.) Murb.) but, according to Kožuharov & Kuzmanov (1995: 92), differing in the following characters: Upper leaves hardly decurrent, calyx lobes ovate to lanceolate, long and acute, basal stamens with filaments 8–10 mm long and anthers 2.5–3.5 mm long.

D. Dimitrov

Umbelliferae

Daucus involucratus Sm.

+ **Tu(E)**: Turkey-in-Europe (A1), Kırklareli: In vinetis prope urbem Lozengrad [Kırklareli], solo calcareo, 14 Jul 1893, *Mateev* (SO 55713, det. Stojanov). – In Turkey previously only known from the Asiatic part of the country (Davis 1972: 534).

D. Dimitrov

Gramineae

Bromopsis erecta subsp. *longiflora* (Spreng.) Dostál [≡ *Bromus erectus* subsp. *longiflorus* (Spreng.) Arcang.]

? **Hu**: Hungary, Budapest: János-hegy, 18 Jul 1990, *Erzberger* (B 100359522, B 100359523). – One specimen (on two sheets) in B has been tentatively identified as this subspecies, which is known from Slovakia as well. In Hungary, *Bromopsis erecta* (Huds.) Fourr. subsp. *erecta* and presumably *B. erecta* subsp. *transsilvanica* (Steud.) H. Scholz & Valdés also occur (Smith 1980).

E. von Raab-Straube & H. Scholz

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

+ **Ct**: Croatia, Krk Island: Njivice, 29 Jul 1980, *Scholz* 1979004 (B, det. Scholz 2000). – This subspecies of *Bromus arvensis* has not been reported previously from Croatia or any other country from former Yugoslavia. It seems to be much more widespread than hitherto known.

E. von Raab-Straube & H. Scholz

+ **Gr**: Greece, Thrace, Nomos of Evros, Eparchia of Alexandroupolis: Alexandroupolis, in wheat field, 15 Jun 1982, *Giannopolitis* 530 (B, det. Scholz); *ibid.*, Eparchia of Soufli: Vryssoula, weed in wheat fields, 16 Jun 1983, *Damanakis*

1262 (B, det. Scholz). – This subspecies of *Bromus arvensis* has not been reported previously from Greece.

E. von Raab-Straube & H. Scholz

+ **Su**: Sweden, Skåne: s.d. [before 1944], herb. Ullepitsch (B, det. Scholz 2000). – This is the first record of this taxon from the Scandinavian countries.

E. von Raab-Straube & H. Scholz

Bromus hordeaceus subsp. *pseudothominei* (P. M. Sm.) H. Scholz

+ **Be(L)**: Luxembourg: Septfontaines, c. 700 m W Ehner in Mähwiese S Flur Stafels, 19 May 2007, *Hand 5378* (B 100429220, det. Scholz 2008). – New to Luxembourg.

R. Hand, E. von Raab-Straube & H. Scholz

+ **Rm**: Romania, Județ Brașov: w Piscul Drăgoi se Lacul Tărlung se Brașov; 790 m; 20 Jun 2008, *Gregor 4345B & al.* (B 10045863, det. Gregor). – New to Romania.

T. Gregor, R. Hand & E. von Raab-Straube

+ **Sk**: Slovakia, Kosice: Červený breh hill, 26 May 1985, *Mikoláš* (B, det. Scholz 1997). – New to Slovakia. In the Czech Republic, plants corresponding to the description of *Bromus hordeaceus* subsp. *pseudothominei* have been found as well (Danihelka & al. 2012). The occurrence there is confirmed by a specimen in B [Czech Republic]: Mähren, Sandsteppe bei Rohatetz (Göding), Jun 1933, *Laus* (B, det. Scholz 1998).

R. Hand, E. von Raab-Straube & H. Scholz

Bromus racemosus subsp. *lusitanicus* (Sales & P. M. Sm.) H. Scholz & Spalton

+ **Bu**: Bulgaria: “ad Sadovo”, May 1915, *Stribrny* (B, det. Scholz 2011). – While the occurrence of *Bromus racemosus* in Bulgaria is well known, this is the first record of the subspecies there.

E. von Raab-Straube & H. Scholz

+ **Co**: France, Corse, dép. Corse-du-Sud: Anse de Favone (côte orientale au S de Solenzara), 20 May 2000, *Lambinon 00/co/87 & al.* (B, det. Scholz 2007). – While the occurrence of the widespread *Bromus racemosus* on the island is well known, this is the first record of the subspecies there.

E. von Raab-Straube & H. Scholz

+ **Sr**: Serbia: “Hungaria. Comit. Bács-Bodrog. In pratis prope Zombor”, 90 m, May 1909, Prodan in Dörfler, herb. norm. no. 5374 (B [2×], det. Scholz 2011). – While the occurrence of *Bromus racemosus* in Serbia is well known, this is the first record of the subspecies there. The city of

Sombor lies in the Vojvodina, which belonged to Hungary at the time of collection.

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+ **Tu(A)**: Turkey (B5), Kayseri: Bünyan, 1500 m, Nasswiese 10 km östlich des Ortes an der Straße nach Pinarbaşı, 12 Jul 1981, *Raus 4011* (B, det. Scholz 2002). – The subspecies was known to occur in Greece and the East Aegean Islands, but had not been previously recorded from Anatolia.

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Helictochloa marginata subsp. *albinervis* (Boiss.) H. Scholz, **comb. nov.** = *Avena albinervis* Boiss., *Voy. Bot. Espagne* 2: 656. 1844 = *Helictochloa albinervis* (Boiss.) Romero Zarco in *Candollea* 66: 102. 2011.

Helictochloa praeusta subsp. *pseudoviolacea* (Dalla Torre) H. Scholz, **comb. nov.** = *Avena pseudoviolacea* Dalla Torre, *Anleit. Beob. Alpenpfl.*: 228. 1882 = *Avenula praeusta* subsp. *pseudoviolacea* (Dalla Torre) H. Scholz & Valdés in *Willdenowia* 36: 662. 2006.

Helictochloa pratensis subsp. *requienii* (Mutel) H. Scholz, **comb. nov.** = *Avena requienii* Mutel, *Fl. Franç.* 4: 62. 1837.

Melica persica Kunth subsp. *schischkinii* (Iljinsk.) W. Hempel [= *Melica schischkinii* Iljinsk.]

– **It**: *Melica persica* subsp. *schischkinii* is found in Transcaucasia, S and E Anatolia, Syria, Jordan, Lebanon, Israel, Azerbaijan, W Iran and N Iraq (Hempel 2011). It has also been recorded from Italy (Hempel 2011), as an alien taxon, based on a specimen cited thus: “Alto-Adige: Marcellino da Vallarsa, 1891, *Castrogiovanni* (FI)”. However, the label of that specimen, revised by Hempel in 1971 as *M. schischkinii*, reads as follows: “Herbarium Martelli. Nei dintorni di Mardin, Maggio 1891, *P. Marcellino da Vallarsa*. Da Padre Capp. G. B. da Castrogiovanni a U. Martelli”. Father Marcellino (Luigi Sottoriva, 1840–1928) from S. Anna in Vallarsa (Trentino, N Italy) was a missionary in the Middle East from 1881 to 1900. During that period, he collected in Mardin, a city of south-eastern Anatolia, the aforementioned *Melica* specimen, subsequently donated by Capuchin Father Giovanni Battista from Castrogiovanni (today Enna, Sicily) to Ugolino Martelli, and after the latter’s death acquired by the herbarium of the Natural History Museum of Florence (FI). Therefore the record of *M. persica* subsp. *schischkinii* from Italy is an error, due to the incorrect interpretation of a herbarium label.

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Secale strictum subsp. *anatolicum* (Boiss.) K. Hammer [≡ *Secale anatolicum* Boiss.]

+ Gr: Greece, Peloponnisos, Nomos and Eparchia of Korinthia: NE side of Mt. Korakofolia, c. 3.5 km S of Evrostina (38°02'23"N, 22°23'27"E), steep rocky slope, conglomerate, 1300–1400 m, 25 Sep 2010, *Ristow 733/10* & *Groth* (herb. Ristow, det. Scholz 2010). – New to Greece, and obviously the first record for Europe. This subspecies is known from the Asiatic part of Turkey (Tan 1985) and extends through the Caucasus region (Tzvelev 1983) farther east to Iran (Bor 1970). The occurrence adds to the remarkable flora of the Mt Korakofolia region in the northern Peloponnese (see Raabe & al. 2009).

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References

- Arrigoni P. V. 1987: Inventario del genere *Hieracium* in Sardegna. – *Webbia* **41**: 1–25.
- Arvet-Touvet C. 1913: Hieraciorum praesertim Galliae et Hispaniae Catalogus Systematicus. Préface de l'Abbé H. Coste. – Paris: Paul Klincksieck.
- Bean A. R. 2008: A synopsis of *Ptilotus* (*Amaranthaceae*) in eastern Australia. – *Telopea* **12**: 227–250.
- Belli S. 1904: *Hieracium*. – Pp. 442–505 in: Fiori A. & Paoletti G., *Flora analitica d'Italia* **3**. – Padova: Tipografia del Seminario.
- Benl G. 1971: Ein Bestimmungsschlüssel für die Gattung *Ptilotus* R. Br. (*Amaranthaceae*). – *Mitt. Bot. Staatssamml. München* **9**: 135–176.
- Boissier P. E. 1875: *Flora orientalis* **3**. – Basel, Genève: Georg.
- Bor N. L. 1970: *Gramineae*. – In: Rechinger K. H. (ed.), *Flora Iranica* **70**. – Graz: Akademische Druck- u. Verlagsanstalt.
- Bräutigam S. & Greuter W. 2008: *Pilosella*. – Pp. 559–674 in: Greuter W. & Raab-Straube E. von (ed.), *Med-Checklist* **2**. – Palermo, Genève & Berlin: OP-TIMA.
- Burnat E. 1931: *Flore des Alpes Maritimes* **7** [Briquet J. I. & Cavilliers F. G.]. – Genève: Conservatoire Botanique.
- Christodoulakis D. K. 1986: I chlorida ke i vlastisi tis Samou. – Patras: PhD thesis, Patras University.
- Chrték J. 1997: Taxonomy of the *Hieracium alpinum* group in the Sudeten Mts., the West and the Ukrainian East Carpathians. – *Folia Geobot. Phytotax.* **32**: 69–97.
- Conti F., Abbate G., Alessandrini A. & Blasi C. 2005: An annotated checklist of the Italian vascular flora. – Roma: Palombi.
- Czerepanov S. K. 1995: *Vascular plants of Russia and adjacent states (the former USSR)*. – Cambridge: University Press.
- DAISIE 2008: European Invasive Alien Species Gateway. *Ptilotus* R. Br. – Published at <http://www.europealiens.org/> [accessed 12 Feb 2013].
- Danihelka J., Chrték J. Jr. & Kaplan Z. 2012: Checklist of vascular plants of the Czech Republic. – *Preslia* **84**: 647–811.
- Davis P. H. (ed.) 1972, 1982: *Flora of Turkey and the East Aegean Islands* **4, 7**. – Edinburgh: University Press.
- Di Gristina E., Raimondo F. M., Domina G. & Gottschlich G. 2012: Typification of eight names in *Hieracium* (*Asteraceae*). – *Taxon* **61**: 1317–1320.
- Di Pietro R., Viscosi V., Peruzzi L. & Fortini P. 2012: A review of the application of the name *Quercus dalechampii*. – *Taxon* **61**: 1311–1316.
- Euro+Med 2006+: Euro+Med PlantBase – the information resource for Euro-Mediterranean plant diversity. – Published at <http://ww2.bgbm.org/EuroPlusMed> [accessed 2 Apr 2013].
- Ferguson I. K. 1972: *Verbascum*. – Pp. 205–216 in: Tutin T. G., Heywood V. H., Burges N. A., Moore D. M., Valentine D. H., Walters S. M. & Webb D. A. (ed.), *Flora Europaea*, **3**. – Cambridge: Cambridge University Press.
- Fiori A. 1925–1929: *Nuova flora analitica d'Italia* **2**. – Firenze: M. Ricci.
- Flann C. (ed.) 2009+: *Global Compositae Checklist*. – Published at <http://compositae.landcareresearch.co.nz/> [accessed 2 Apr 2013].
- Frodin D. G. & Govaerts R. 1998: *World Checklist and Bibliography of Fagales (Betulaceae, Corylaceae, Fagaceae and Ticodendraceae)*. – Kew: Royal Botanic Gardens.
- Froelich J. A. von 1838: *Hieracium*. – Pp. 198–240 in: Candolle A. P. de, *Prodromus systematis naturalis regni vegetabilis*, **7**. – Paris: Treuttel & Würtz, etc.
- Gladkova V. N. & Krügel T. S. 2001: *Cotoneaster Medik.* – Pp. 588–592 in: Tzvelev N. N. (ed.), *Flora vostočnoj Evropy* **10**. – Sankt-Peterburg: Mir i Semia. Izdatel'stvo Sankt-Peterburgskoi gosudartvennoj Khimiko-Farmazevtičeskoj Akademii.
- Gorčakovskij P. L. 1966: *Flora i rastitel'nost' vysokogorij Urala*. – Trudy Inst. Biol. Akad. Nauk S.S.S.R. Ural'sk. Fil. **48**.
- Gottschlich G. 1994: Über ein neu entdecktes Relikt-vorkommen von *Hieracium sparsum* Friv. in den Karnischen Alpen (Kärnten, Österreich). – *Carinthia* **104**: 73–76.
- Gottschlich G. 2003: Die Hieracien des Pospichal-Herbars aus dem Gebiet des ehemaligen "Küstenlandes" (Unteres Isozonal, Karst, Istrien) und Umgebung (Revisionsstudien an italienischen *Hieracium*-Sammlungen, I). – *Neilreichia* **2/3**: 65–98.
- Gottschlich G. 2005 ["2004"]: *Hieracium grovesianum* Arv.-Touv. ex Belli (*Compositae*), endemica italiana poco conosciuta. Tipificazione, note tassonomiche, ecologiche e corologiche. (Revisione delle collezioni di *Hieracium* Italiani, IV.) – *Webbia* **59**: 269–283.

- Gottschlich G. 2007: Die Gattung *Hieracium* L. (*Compositae*) im Herbarium Rupert Huter (Vinzentinum Brixen, BRIX). Kommentiertes Verzeichnis mit taxonomischen und nomenklatorischen Ergänzungen unter besonderer Berücksichtigung der Typus-Belage. – Veröff. Tiroler Landesmus. Ferdinandeum **86 (Sonderband)**: 5–416.
- Gottschlich G. 2009: Die Gattung *Hieracium* L. (*Compositae*) in der Region Abruzzen (Italien). Eine floristisch-taxonomische Studie. – *Stapfia* **89**: 1–328.
- Gottschlich G. & Argenti C. 2011: Notulae alla Checklist della flora vascolare Italiana 12(1827): *Hieracium pseudofritzei* (Benz & Zahn) Guterm. – *Inform. Bot. Ital.* **43**: 354.
- Greuter W. 1980: Med-Checklist Notulae, 1. – *Willdenowia* **10**: 13–21.
- Greuter W. 2008: *Dicotyledones (Compositae)*. – In: Greuter W. & Raab-Straube E. von (ed.), *Med-Checklist 2*. – Palermo, Genève & Berlin: OPTIMA.
- Greuter W., Burdet H. M., Long G. (ed.) 1984, 1986, 1989: *Med-Checklist 1, 3, 4*. – Genève: OPTIMA.
- Greuter W. & Raab-Straube E. von (ed.) 2008: *Med-Checklist 2*. – Palermo, Genève & Berlin: OPTIMA.
- Greuter W. & Raab-Straube E. von 2005, 2012: *Euro+Med Notulae*, 1, 6. – *Willdenowia* **35**: 223–239, **42**: 283–285.
- Greuter W. & Raus Th. (ed.) 1981, 2007, 2012: *Med-Checklist Notulae*, 4, 26, 31. – *Willdenowia* **11**: 271–280, **37**: 435–444, **42**: 287–295.
- Gutermann W. & Gottschlich G. 2009: *Hieracia Benziana* (Ein kommentierter Katalog der auf R. von Benz zurückgehenden *Hieracium*-Taxa). – *Phyton (Horn)* **48**: 239–282.
- Halácsy E. von 1902: *Conspectus florum graecae 2*. – Leipzig: Engelmann.
- Hayek A. 1928–1931: *Prodromus florum peninsulae balcanicae*, 2. – *Repert. Spec. Nov. Regni Veg. Beih.* **30(2)**.
- Hempel W. 2011: Revision und Phylogenie der Arten der Gattung *Melica* L. (*Poaceae*) in Eurasien und Nordafrika. – *Feddes Repert.* **122**: 1–253.
- Hill A. W. 1926: *Index Kewensis plantarum phanerogamarum, supplementum 6*. – Oxford: Clarendon Press.
- Knjazev M. S. 2007: The genus *Cotoneaster* in the Urals. – *Bot. Žurn.* **92**: 420–428.
- Kožuharov S. I. & Kuzmanov B. A. (ed.) 1995: *Flora na Republika Bălgarija 10*. – Sofia: Akademichno Isdatelstvo Prof. Marin Drinov.
- Kulagin Yu. Z. 1989: *Cotoneaster* Medik. – Pp. 61–62 in: Kučerov E. V. & Muldašev A. A. (ed.), *Opredelitel' vyšsich rastenij Baškirkskoj ASSR [2]*. Sem. *Brassicaceae-Asteraceae*. – Moskva: Izdatel'stvo "Nauka".
- Kuzmanov B. (ed.) 1979: *Flora na Narodna Republika Bălgarija 7*. – Sofia: Isdatelstvo na Bălgarskata Akademija na Naukite.
- Mateo Sanz G. 2007: Los géneros *Hieracium* y *Pilosella* en el ámbito de Flora Iberica, versión 1.1, 26 Dec 2007. – Published online at http://www.floraiberica.es/floraiberica/texto/borradores/vol_XVI/Hieracium.pdf [accessed 3 Apr 2013].
- Micevski K. 1993: *Flora na Republika Makedonija 1(2)*. – Skopje: Makedonska Akademija na Naukite i Umetnostite.
- Nadji A. R. 1892: *Empire Ottoman géographie botanique. Faits nouveaux relatifs à la province de Salonique*. – Thessaloniki: Muratori.
- Nägeli C. & Peter A. 1886–1889: *Die Hieracien Mittel-Europas 2*. Monographische Bearbeitung der Archieracien. – München: R. Oldenbourg.
- Nyman C. F. 1878–1882: *Conspectus florum europaeae*. – Örebro: Typis Officinae Bohlinianae.
- Pampanini R. 1958: *La Flora del Cadore. Catalogo sistematico delle piante vascolari*. – Forlì: Valbonesi.
- Parent G. H. 2005: *Données floristiques inédites sur les montagnes grecques*. – *Syst. Géogr. Pl.* **75**: 195–238.
- Pignatti S. 1977: *Note critiche sulla flora d'Italia. V. Nuovi appunti miscellanei*. – *Giorn. Bot. Ital., ser. 2*, **111**: 45–61.
- Pignatti S. 1982a, b: *Flora d'Italia 2, 3*. – Bologna: Edagricole.
- Pojarkova A. I. 1939: *Cotoneaster* Medik. – Pp. 319–333 in: Komarov V. I. (ed.), *Flora URSS 9*. – Moskva & Leningrad: Izdatel'stvo Akademii Nauk SSSR.
- Raabe U., Tan K., Iatrou G., Vold G. & Parolly G. 2009: *Polygala rausiana (Polygalaceae)*, a new species from the northern Peloponnese, Greece. – *Willdenowia* **39**: 69–75.
- Rouy G. 1905, 1908: *Flore de France 9, 10*. – Asnières: G. Rouy; Paris: E. Deyrolle fils.
- Sennikov A. N. 2011: *Atlas Florae Europaeae notes 18*. Synonymy and distribution of some native and alien species of *Cotoneaster (Rosaceae)* in Eastern Europe and the Caucasus. – *Ann. Bot. Fenn.* **48**: 325–336.
- Smith P. M. 1980: *Bromus* L. – Pp. 182–189 in: Tutin T. G., Heywood V. H., Burges N. A., Moore D. M., Valentine D. H., Walters S. M. & Webb D. A. (ed.), *Flora europaea 5*. – Cambridge: University Press.
- Strid A. & Tan K. (ed.) 1991: *Mountain flora of Greece 2*. – Edinburgh: University Press.
- Strid A. & Tan K. (ed.) 1997: *Flora hellenica 1*. – Königstein: Koeltz.
- Tan K. 1985: *Secale*. – Pp. 255–260 in: Davis P. H. (ed.), *Flora of Turkey and the East Aegean Islands 9*. – Edinburgh: University Press.
- The Plant List 2010: Version 1. – Published at <http://www.theplantlist.org/> [accessed 2 Apr 2013].
- Tutin T. G., Burges N. A., Chater A. O., Edmondson J. R., Heywood V. H., Moore D. M., Valentine D. H., Walters S. M. & Webb D. A. (ed.) 1993: *Flora europaea*, ed. 2, **1**. – Cambridge: University Press.
- Tutin T. G. & Edmondson J. R. 1993: *Amaranthaceae*. – Pp. 130–133 in: Tutin T. G., Burges N. A., Chater A.

- O., Edmondson J. R., Heywood V. H., Moore D. M., Valentine D. H., Walters S. M. & Webb D. A. (ed.), *Flora europaea*, ed. 2, **1**. – Cambridge: University Press.
- Tutin T. G., Heywood V. H., Burges N. A., Moore D. M., Valentine D. H., Walters S. M. & Webb D. A. (ed.) 1976: *Flora europaea* **4**. – Cambridge: University Press.
- Tzvelev N. N. 1983: *Grasses of the Soviet Union [Zlaki SSSR]* **1**. Translated from Russian. – New Delhi: Amerind Publ.
- Verloove F. 2006: Catalogue of neophytes in Belgium (1800–2005). – *Scripta Bot. Belg.* **39**.
- Visé A. 1958: Florule adventice de la vallée de la Vesdre. – *Bull. Soc. Roy. Bot. Belg.* **90**: 287–305.
- Wagensommer R. P., Gottschlich G. & Licht W. 2011: Notulae alla Checklist della flora vascolare Italiana 11(1807–08): *Hieracium acanthodontoides* Arv.-Touv. & Belli (*Asteraceae*); *Hieracium racemosum* Waldst. & Kit. ex Willd. subsp. *crinitum* (Sm.) Zahn (*Asteraceae*). – *Inform. Bot. Ital.* **43**: 139.
- Wallroth F. W. 1844: Monographischer Versuch über die Gewächsgattung *Xanthium* Diosc. – Pp. 219–244 in: Wallroth F. W., Beiträge zur Botanik. Eine Sammlung monographischer Abhandlungen über besonders schwierige Gewächs-Gattungen der Flora Teutschlands **1**. – Leipzig: Hofmeister.
- Zahn K. H. 1916: Les *Hieracium* des Alpes Maritimes. – Genève, Bâle & Lyon: Georg & Cie.
- Zahn K. H. 1921: *Hieracium*. Sect. I. *Glauca* – Sect. VII *Vulgata* (Anfang). – In: Engler A. (ed.), Das Pflanzenreich **75**. – Leipzig: Engelmann.
- Zahn K. H. 1922–30, 1930–35, 1936–38: *Hieracium*. – In: Ascherson P. F. A. & Graebner K. O. P. P. (ed.), Synopsis der mitteleuropäischen Flora **12(1)**, **12(2)**, **12(3)**. – Leipzig: Borntraeger.