Check-list of additional taxa to the supplement of flora of Turkey X

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ABSTRACT
The 10th in the checklist series, this “Check-list of additional taxa to the supplement flora of Turkey”, contains 225 taxa from 193 manuscripts published between January 2019 and December 2021. These taxa are not found in any of the other 11 volumes of ‘Flora of Turkey’ nor in the nine previously published check-lists. The following taxa are now added to the Turkish flora as a result of this paper: 180 taxa new to science and 45 taxa with new records for the Turkish flora.

Keywords: Additional taxa, Turkish flora, New species, New records

INTRODUCTION
In terms of plant diversity, Turkey is one of the most significant temperate countries on the planet. The country’s vascular plant diversity has been documented in the “Flora of Turkey and the East Aegean Islands”, which was published in nine volumes (Davis, 1965-1985). With the publication of this flora, Turkish and other country botanists, both scientists and amateurs, have gained a newfound interest in the rich plant diversity of Turkey. As a result of this interest, the flora of Turkey is now better known. The identification of these additional taxa necessitated the publication of supplementary volumes to the Flora of Turkey: vol. 10 (Davis, Tan, & Mill, 1988) and vol. 11 (Güner, Özhatay, Ekim, & Başer, 2000). The 11 volumes describe 8,796 species from Turkey in total (excluding an additional 192 species restricted to the east Aegean Islands). Of these, a total of 2,941 species are Turkish endemics.

Following the publication of the Flora of Turkey, subsequent research has greatly increased our understanding of the flora, resulting in the addition of numerous new taxa. These additional taxa were published as a series of papers titled ‘Checklist of additional taxa to the supplement flora of Turkey’. These checklists were published in a series of papers starting in the year 1994 based on all the original publications of these taxa. They were later compiled by the authors of this paper as a collection housed in the library of the Department of Pharmaceutical Botany, Istanbul University (ISTE Herbarium Library).

Following the publication of the 11th volume of Flora of Turkey, an additional 717 new taxa were added in the period up to 2011 (Ozhatay & Kültür, 2006; Ozhatay, Kültür, & Aslan, 2009; Ozhatay, Kültür, & Gürdal, 2011), including 497 new taxa described with an additional 220 taxa new to Turkey (Table 1). In 2012, a book was published which included all the vascular plants listed by Güner, Aslan, Ekim, Vural, & Babaç (2012) in their document in Turkish, titled “Turkey Bitkileri Listesi (Damarlı Bitkiler)” and 12 new species described for plant science. After the publication of this book, checklists VI, VII, VIII and IX were printed in quick succession (Ozhatay, Kültür, & Gürdal, 2013; 2015; 2017; 2019). During the period 2013 to 2019, a total of 638 new taxa were added to the Turkish flora, including 508 new taxa to plant science and an additional 130 taxa new to Turkey.

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This paper is the 10th in the series of publications based on 190 published papers on additional taxa to the Turkish flora from 2019 to 2021 together with any missing records. Nine publications that were overlooked in the previous checklists have been added to this checklist. Since these publications came out during this period, they have been included in this list.

In this paper, 225 taxa are listed, 180 of them as new taxa to science (comprising 153 species, 8 subspecies, 9 varieties, 10 hybrids), and a further 45 taxa as new records for the country (33 species, 8 subspecies, 2 varieties, 2 hybrids) (Figure 1). *Allium* L., *Centaurea* L., *Crocus* L., *Muscari* Mill., and *Ornithogalum* L. are the five genera which are represented by the most taxa in this study (Figure 2).

### The list of the additional taxa

Information regarding the type of examined specimens is written in the same way as in the original references. *e* = endemic species; * = new record for Turkish flora; **= new taxon for science; ■ = new genus for Turkish flora; ■■ = new genus for science.

| PTERIDOPHYTA | DRYOPTERIDACEAE |
|---------------|-----------------|
| *Polystichum roth* e**P. asiæ-minoris* Tunçkol & Li Bing Zhang in Phytotaxa 447 (4): 296 (2020) [Tunçkol, Aytaç, Aksoy, & Fişne, 2020] |

| Type: Turkey. Kastamonu: Kure Mountains National Parks, Horma Canyon, Limestone Bedrock, 41°38'04''N, 33°08'35''E, elev. 800 m, 20 July 2018, B. Tunçkol T4500 (holotype CDBI, isotypes ISTO-38328). |

| DICOTYLEDONS | AMARANTHACEAE |
|---------------|---------------|
| *Amaranthus L.* *A. crassipes* Schldtl. in Linnaea 6: 757 (1831). [Uygur, Tetik, & Doğru-Koca, 2021] |

| Examined specimen: Adana: Yumurtalık, turunçgil bahçesi, 25 vii 2018, S. Uygur CUBK-1AMAF-1672 (Çukurova Univ. Bitki Koruma Bölümü, HUB). |

| BORAGINACEAE | |
|---------------|---------------|
| *Buglossoides Moench* |

| *B. incrassata* (Guss.) I.M.Johnst. subsp. *splitgerberi* (Guss.) E. Zippel & Selvi in Taxon 58(2): 624 (2009). [Raab-Straube & Raus, 2020] |

| Examined specimens: Burdur, macchie, 17 Apr 1985, Nydegger 40250 (BASBG); ibid., Antalya, Campus University Akdeniz, ruderal, 7 Apr 1998, Even 50.3 (B). Turkey-in-Europe: Umgebung von Konstantinopel, San Stefano, 6 Apr 1895, Nemetz (WU 2001-12328). |
**Omphalodes Mill.**

*e**O. *nedimeae* Aykurt & Sümbül in Phytotaxa, 498(4), 247 (2021). [Aykurt, Sümbül, Gülben, Sarı, & Konuralp, 2021]

**Type:** Turkey. Antalya: Kumluca, Bey Mountains in Sankaya Wildlife Development Area, between Kırkmuar and Kızlar Sivrisi, shady rock crevices, 2100 m elevation, 07.06.2019, C. Aykurt 5123 & H. Sümbül (holotype: AKDU; isotype: AKDU).

**Onosma L.**

*e**O. *onur-koyuncui* Sezer in Pak. J. Bot., 53(4): 1317 (2021). [Sezer, 2021]

**Type:** Turkey. B3 Kütahya: Sökmen village, Calcareous rock and soils, 1050 m, 39° 35' 15'' N - 30º 11'43'' E, 31.05.2017, O. Sezer, 16481 (OUFE).

*e**O. *satensis* Fırat & Binzet in Adansonia 43(16): 188 (2021). [Fırat & Binzet, 2021]

**Type:** Turkey. C9 Hakkâri, Yüksekova Province, Sat mountains, Oremar region, Zozana Herduav plateau, rocky, stone, and calcareous areas, 1376 m, 37°22'41"N, 44°10'08"E, 7.VII.2018, M. Fırat 34040 (holo-, VANF; iso- ANK, in the personal herbarium of the first author [Herb. M. Fırat] and the Herbarium of Mersin University).

**Rindera Pallas**

*e**R. *cetineri* Yıldırım in Phytotaxa 427(4): 252 (2019). [Yıldırım, 2019]

**Type:** Turkey. Denizli: Çameli District, Akdağ Mountain, Karkın Platue, northern slopes, 2200 m, 05 July 2018, H. Yıldırım 7671 & R. Çetiner (holotype EGE 42452, isotype EGE, NGBB).

**Campanulaceae**

*Asyneuma* Griseb. & Schenk

*e**A. *hasandaghense* Hamzaöglü in Türler ve Habitatlar 2(1): 70 (2021). [Hamzaöglü, 2021b]

**Type:** Turkey. B5 Aksaray: Helvadere, Hasan Dağı, Turizm Merkezi güneyi, zirve yakını, volkanik kayalı yamaçlar, 2900 m, 29.06.2019, Hamzaöglü 7610 (GAZI; izotip: GAZI, ANK, HUB, AYBU [Ankara Yıldırım Beyazıt Universitesi Herbaryum]).

**Campanula L.**

*e**C. *phitosiana* Yıldırım & Şentürk in Phytotaxa 399 (1): 30 (2019). [Yıldırım, Şentürk, Özdöl & Pirhan, 2019]

**Type:** Turkey. İzmir: Bergama-Kozak, çayırlık, 400 m, 27.ii.1986, G.Görk (EGE 315601).

*e**C. *comatum* Desv. var. *longipedicellatum* M.Keskin in Front Life Sci RT 2(2): 36 (2021). [Keskin, 2021a]

**Type:** Turkey. Balıkesir, Ayvalık, Maden Adası, 29.iv.1997, 30 m, K. Alpınar ISTE 74000.

*e**C. *inflatum* Link ex Boiss. var. *longum* M.Keskin in Front Life Sci RT 2(2): 39 (2021). [Keskin, 2021a]

**Type:** Turkey. Bitlis, Tatvan, Zulül kaya, çayırlık ve kenarı, ca.1850 m, 20.vi.1986, Ö.Seçmen 3489 (EGE 17976).

*e**C. *semidecandrum* L. var. *delicatum* M.Keskin in Front Life Sci RT 2(2): 39 (2021). [Keskin, 2021a]

**Type:** Turkey. İzmir: Bergama-Kozak, çayırlık, 400 m, 27.i.1986, G.Görk (EGE 315601).

* *C. szowitsii* Boiss., Fl. Or. I: 717 (1867). [Karaer, Terzioğlu, & Kutbay, 2020]

**Dianthus L.**

*e**D. *anatolicus* Boiss. var. *afyonensis* Uğurlu, M. Koch & Dönmez in Ann. Bot. Fennici 58: 21 (2020). [Uğurlu Aydın, Koch, & Dönmez, 2020]

**Type:** Turkey. Afyonkarahisar: Çay, from Armutlu village to Kaşkara village, crevices on limestone, 42°51´13.9´´N, 31°04´27´´E, 20 June 2018 A.A. Dönmez 20098-Z. Uğurlu Aydın (holotype HUB, isotypes GAZI, HEID).

* *D. *azkurensis* Sosn. in Vestn. Tiflissk. Bot. Sada n.s., 1: 74 (1923). [Hamzaöglü & Koç, 2019]

**Examined specimens:** A8 Artvin - Hatila Valley National Park, rocky places, roadsides, 559 m, 19.v.2012, KATO 18913 KTUB 1097 ibid., FK 17305 (OMUB), FK 18250 ibid., 23.v.2011 (OMUB).

**Bolantus (Ser.) Reichb.**

*e**B. *aziz-sancarii* Koç & Hamzaöglü in Systematic Botany 44(1):195 (2019) [Koç, Hamzaöglü, & Büyükk, 2019]

**Type:** Turkey. Afyonkarahisar: between Bayat and Iscehisar, 1500 m, fissures of tuffaceous volcanic rocks, 02 Jul 2010, Koç 1209 & Hamzaöglü (holotype: GAZI, isotypes: GAZI, ANK, HUB).

**Bunisia Sauvages**

*e**B. *alni-hattii* Özdeniz in Fresenius Environ. Bull. 28(12): 9176 (2019). [Özdeniz, 2019]

**Type:** Turkey. Sivas: 8 km from BEypinari to Zara, step slopes, 02 Jul 2010, Koç 1209 & Hamzaöglü (holotype: GAZI, isotypes: GAZI, ANK, HUB).

**Cerastium L.**

*e**C. *comatum* Desv. var. *longipedicellatum* M.Keskin in Front Life Sci RT 2(2): 36 (2021). [Keskin, 2021a]

**Type:** Turkey. Balıkesir, Ayvalık, Maden Adası, 29.iv.1997, 30 m, K. Alpınar ISTE 74000.

*e**C. *comatum* Desv. var. *longum* M.Keskin in Front Life Sci RT 2(2): 39 (2021). [Keskin, 2021a]

**Type:** Turkey. Bitlis, Tatvan, Zulül kaya, çayırlık ve kenarı, ca.1850 m, 20.vi.1986, Ö.Seçmen 3489 (EGE 17976).

*e**C. *semidecandrum* L. var. *delicatum* M.Keskin in Front Life Sci RT 2(2): 39 (2021). [Keskin, 2021a]

**Type:** Turkey. İzmir: Bergama-Kozak, çayırlık, 400 m, 27.ii.1986, G.Görk (EGE 315601).

* *C. szowitsii* Boiss., Fl. Or. I: 717 (1867). [Karaer, Terzioğlu, & Kutbay, 2020]

**BOULDER THOMAS (Ser.) Reichb.**

*e**B. *aziz-sancarii* Koç & Hamzaöglü in Systematic Botany 44(1):195 (2019) [Koç, Hamzaöglü, & Büyükk, 2019]

**Type:** Turkey. Afyonkarahisar: between Bayat and Iscehisar, 1500 m, fissures of tuffaceous volcanic rocks, 02 Jul 2010, Koç 1209 & Hamzaöglü (holotype: GAZI, isotypes: GAZI, ANK, HUB).

**Rinder Pallas**

*e**R. *cetineri* Yıldırım in Phytotaxa 427(4): 252 (2019). [Yıldırım, 2019]

**Type:** Turkey. Denizli: Çameli District, Akdağ Mountain, Karkın Platue, northern slopes, 2200 m, 05 July 2018, H. Yıldırım 7671 & R. Çetiner (holotype EGE 42452, isotype EGE, NGBB).
**D. orientalis** Bingöl Univ. Herb.) 01.07.2018, L.Behçet and Y.Yapar 15493 (holo. GAZI, iso. ANK, HUB).

**e** D. *demirkushii* Yıld. & Kilç in Ort Sistematik Botanik Dergisi, 26(2): 60 (2019). [Yıldırım & Kilç, 2019]

**Type:** Turkey. Yeşilova village, Eşeler mountain, 41°53’N–027°29’E, 2260 m, 18.08.2014, stony area with serpentines, Köç, Hamzaoğlu & Aksoy 1847 (holotype GAZI, isotype ANK, HUB).

**M. granuliflora** (Fenzl) Grossh. in Fl. Kavk. II: 381 (1842). [Koç, Hamzaoğlu, & Aksoy, 2020]

**e** M. *torosensis* Köç & Hamzaoğlu in Phytotaxa 391 (2): 124 (2019). [Koç, Hamzaoğlu, & Aksoy, 2019]

**Minuartia L.**

**e** M. *serpentinicola* Köç & Hamzaoğlu in Phytotaxa 498 (4): 284 (2021). [Koç, Hamzaoğlu, & Aksoy, 2021]

**Type:** Turkey. C3 Antalya, Gebiz district, Bozburun Mountain, between Boğazağzı-Tozluçukur plateu, 1500 m, 18.06.2015, 37 20 N-31 02 E, M. Koç 2690, Hamzaoğlu & Budak (holotype GAZI, isotype ANK, GAZI, HUB).

**Moenchia Ehrh.**

**e** M. *almihiattii* Menemen, Yağlanmak & Erden in Nord J Bot 39(3):e03037: 2 (2021). [Menemen, Yağlanmak, & Erden, 2021]

**Type:** Turkey. Kleinasien [Anatolia], Bitlis to Tatvan, 1700–1900 m a.s.l., 5 Jul 1951, Renz s.n. (holotype: G00446762 [two sheets]; isotype: ADO [small parts removed from the holotype]).

**Sabella L.**

**e** S. *serimanea* Koç & Hamzaoğlu in Phytotaxa 498 (4): 284 (2021). [Koç, Hamzaoğlu, & Aksoy, 2021]

**Type:** Turkey. C2 Burdur, Altinyayla district, between Ören to Ballıköy, calcereous rocks, 1320 m, 26.06.2015, Köç 2054, Hamzaoğlu & Aksoy (holotype GAZI, isotype ANK, GAZI).

**e** S. *tortumensis* Koç & Hamzaoğlu in Folia Geobotanica, 54: 286 (2019). [Koç, Hamzaoğlu, & Aksoy, 2019]
**Type:** Turkey. A8 Erzurum, Tortum district, Meydanlar village, 2,020 m a.s.l., 40°21′N, 041°25′E, 14 July 2016, volcanic rocks, Koç et al. 2351 (holotype: GAZI; isotypes: GAZI, ANK, HUB).

*Silen* L.

**e** S. *arsuzensis* Özbek & Uzunh. in Phytotaxa 397 (1): 75 (2019). [Özbek & Uzunhisarcıklı, 2019]

**Type:** Turkey. C6 Hatay: İskenderun, Arsuz, around Kale Village, 0–5 m, serpentine stony sandy places, 36° 17’ 04’’ N, 35° 47’ 23’’ E, 09.04.2008, E.Uzunhisarcıklı & U.Özbek 2698 (holotype GAZI, isotype ANK).

**S. bocquetiana** Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(2): 65 (2019). [Yıldırımlı & Kılıç, 2019i].

**Type:** B8 Bingöl, Bingöl-Sancak arası, çayır, bayır, yamaç, meşelik (*Quercus brandii*), 1550-1600 m, 04.05.2018, Ş. Yıldırımlı 44474 & Ö. Kılıç (holo. Yıldırımlı Otluk’u iso. EGE, GAZI, HUB).

**S. karakotchanensis** Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(2): 69 (2019). [Yıldırımlı & Kılıç, 2019i].

**Type:** B7 Elazığ, Karakoçan, Golan kaplıcası, Peri suyu kıyısı ve yolu boyunca, orman, ağaclık, 960-975 m, 01.05.2018, Ş. Yıldırımlı 44349 & Ö. Kılıç (holo. Yıldırımlı Otluk’u (YO); iso. GAZI, YO).

**ChenoPodiaeaceae**

*Atriplex* L.

**e** A. *turcica* Başköse & Yaprak in Phytotaxa 424(4), 233 (2019). [Başköse & Yaprak, 2019]

**Type:** Turkey. Sivas, Şarkışla, N of Ortatopaç village, Kızılırmak river edge, 1183 m, 30 September 2014, Yaprak et Başköse 2781 (holotype and isotype, ANK).

*Suaeda* Forssk. ex J.F. Gmelin

**e** S. *aegyptiaca* (Hasselq.) Zohary in J. Linn. Soc., Bot. lv. 635 (1957). [Başköse & Yaprak, 2021]

**Examined specimen:** Turkey. C7 Şanlıurfa province, Akçakale district, Akçakale-Ceylanpınar road, ŞUSKİ wastewater treatment facility, on the road of Öncül village, approximately 1-1.5 km, irrigation channel, road and field edges, 344 m. a.s.l, 22.09.2018, 28.10.2018, 20.07.2019, N 36° 42′ 52.14″- E 38° 58′ 48.37″ E, coll. İ. Başköse 4435, 4456, 4746 (ANK).

**Cistaceae**

*Cistus* L.

**e** C. × *florentinus* Lam. in Encycl. 2(1): 17 (1786). [Şen Gökmen & Duman, 2021]

**Type:** Turkey. B4 Aksaray: Eskil, 3–4 km East of Eskil, semihalophytic steppe, 926 m, 06.06.2008, H.Duman 9745 et al. (Holotype: GAZI, isotypes: ANK, HUB, GAZI).

**e** C. *kirschneri* Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(1): 80 (2019). [Yıldırımlı & Kılıç, 2019g].

**Type:** B7 Elazığ, Karakoçan, Golan kaplıcası, Peri suyu kıyısı ve yolu boyunca, orman, ağaclık, 960-975 m, 01.05.2018, Ş. Yıldırımlı 44325 & Ö. Kılıç (holo. Yıldırımlı Otluk’u; iso. HUB).

**Rosularia** (DC.) Stapf

**e** R. *paluensis* Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(2): 98 (2019). [Yıldırımlı & Kılıç, 2019d].

**Type:** B7 Elazığ, Palu, kale, kayalık, taşlık, çayır, tepe, bayır, 1150-1250 m, 10.06.2015, Ş. Yıldırımlı 41332 & Ö. Kılıç (holo. Yıldırımlı Otluk’u; iso. HUB).

**Compositae**

*Achillea* L.

**e** A. *kirschneri* Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 27(1-2): 20 (2020). [Yıldırımlı, 2020a]

**Type:** Turkey. B6 Kayseri: Sarız, Yalak, Binboğa dağı, Körkuyu-Sıçak yaylası arası, 2400-2600 m, 21.07.1992, Z. Aytaç & H. Duman (5444) at fruiting time (holo. GAZI).
Bidens L.
*B. pilosa* L. in Sp. Pl. 2: 832 (1753). [Yıldırım, Özdöl, & Yaşayacak, 2019]

Examined specimens: Turkey. Osmaniye: Kırmıtlı ile Yeniköy arası, Kirmıtlı içmesuyu sondaj alanı yanı, taşkın seddesi kenarı, sulama arki çevresi, tarlalar arası, yol kenarı, sulama arki boyunca, 37°9′41.31″N, 36°8′42.46″ E D21.08.2018, H. Yıldırım 7694 (EGE).

Centaurea L.

**C. akcadaghensis** Uysal & Şirin in Mediterranean Botany 41 (2): 174 (2020). [Şirin, Uysal, Bozkurt, & Ertuğrul, 2020]

Type: Turkey. Malatya, Southwestern slopes of the Yamadağı, 1300 m, steppe, 19 June 2017, K. Ertuğrul 5377, T. Uysal & M. Bozkurt (holotype KNYA, isotype ANK).

**C. ermenekensis** Uysal & Şirin in Mediterranean Botany 41 (2): 176 (2020). [Şirin et al., 2020]

Type: Turkey. Karaman, Ermenek, West of Göktepe, 1800 m, steppe, 18 June 2014, O. Tugay 8055, K. Ertuğrul, D. Yıldız & Arabacı (Holotype: ISTE, isotype: ANK).

Examined specimen: Turkey. A9 Ardahan: Posof, Sandarı köyü, Posof Çayı karışı, TANAP Boru Hattı civarı, 38 T 0318759 – 10519 (Holotyp: GAZI; izotyp: ANK, HUB).

**C. hekimhanensis** Şirin & Yıldırım in Botanica Serbica 45 (1): 14 (2021). [Şirin, Yıldırım, Uysal, & Ertuğrul, 2021]

Type: Turkey. Malatya, Southwestern slopes of the Yamadağı, stony-gravelly areas, 2545 m, 19.VI.2015, H. Yıldırım 3974 (holo. KNYA; iso. ANK).

**C. gigantosphaera** Rech. f. in Anz. Österr. Akad. Wiss., Math.-Naturwiss. Kl. 101: 345 (1964). [Fidan, Pınar, & Eroğlu, 2019]

**C. kelkitensis** Dirmenci in Phytotaxa 427 (2019). [Dirmenci et al., 2019]

Type: Turkey. B7 Erzincan: between Erzincan and Kelkit, Pöske pass, steppe, 39.903°N, 39.362°E, 2100 m, 02.09.2016, Dirmenci 4656, Yıldız & Arabacı (Holotype: ITE, isotype: ANK).

**C. nezaketiae** Yıldız, Dirmenci & Arabacı in Turkish J Bot 43: 368 (2019). [Dirmenci et al., 2019]

Type: Turkey. B7 Erzincan: Between Erzincan and Kelkit, Pöske pass, steppe, 39.903°N, 39.362°E, 2100 m, 02.09.2016, Dirmenci 4656, Yıldız & Arabacı (Holotype: ITE, isotype: ANK).

Cirsium Mill.

**C. ayasii** H.Duman & Dirmenci in Bağboçke Bilim Dergisi 7(3): 36 (2020) [Dirmenci, Duman, & Arabacı, 2020]

Type: Turkey. Kütahya, Türkmenbaba Dağı, Başören köyü-İncik köyüsü arası, 1,5 km, kararaçın ormanı açıklıği, 39.54473 N 30.29153 E, 10.08.2018, H.Duman 10519 (Holotyp: GAZI; izotyp: ANK, HUB).

**C. x erzincanicum** Yıldız, Dirmenci & Arabacı in Turk J Bot 43: 369 (2019). [Dirmenci et al., 2019]

Type: Turkey. B7 Erzincan: between Erzincan and Kelkit, Pöske pass, steppe, 39.903°N, 39.362°E, 2100 m, 02.09.2016, Dirmenci 4656, Yıldız & Arabacı (Holotype: ITE, isotype: ANK).

Coussinia Cass.

**C. agridagensis** Tugay, Ertuğrul & Ulukuş in Phytotaxa 427 (4): 260 (2019). [Tugay et al., 2019]

Type: Turkey. B9/10 Ağrı: Doğubeyazıt, Ortadirek village, steppe, 1800 m, 18 June 2014, O. Tugay 8055, K. Ertuğrul, D. Ulukuş (holotype and isotypes KNYA).

*C. gigantosphaera* Rech. f. in Anz. Österr. Akad. Wiss., Math.-Naturwiss. Kl. 101: 345 (1964). [Fidan, Pınar, & Eroğlu, 2019]

Examined specimens: Turkey. C9 Şırnak: Beytüşşebap-Ayvalık pass, steppe, 39°55′56″ K 43°11′11″ D, 1240 m, 03 Jul 2016, Hamzaoğlu & Koç (Holotyp: GAZI, isotyp: ANK).

**C. x kelkitensis** Yıldız, Arabacı & Dirmenci in Turk J Bot 43: 369 (2019). [Dirmenci et al., 2019]

Type: Turkey. B7 Erzincan: between Erzincan and Kelkit, Pöske pass, steppe, 39.903°N, 39.362°E, 2100 m, 02.09.2016, Dirmenci 4656, Yıldız & Arabacı (Holotype: ITE, isotype: ANK).

Type: Turkey. B7 Erzincan: Between Erzincan and Kelkit, Pöske pass, steppe, 39.903°N, 39.362°E, 2100 m, 02.09.2016, Dirmenci 4659, Yıldız & Arabacı (Holotype: ITE, isotype: ANK).

Crepis L.

**C. setosa** Haller f. subsp. *topaliana* Babc. Univ. Calif. Publ. Bot. 19: 403 (1941). [Inceer & Kalmuk, 2019]

Examined specimens: A1 Kırklareli: Between Kırklareli-Edirne, near Edirne, 150 m a.s.l., 12 June 2015, Inceer 1174 (KTUB); Edirne: Near Lalapasa, 100 m a.s.l., 12 June 2015, Inceer 1181 (KTUB); Tekirdağ: Çorlu, 170 m a.s.l., 13 June 2015, Inceer 1188 (KTUB); B1 İzmir: Between Bayındır-Odems, 70 m a.s.l., 25 May 2011, Inceer 819 (KTUB); B2 İzmir: Near Bozdağ, 350 m a.s.l., 25 May 2011, Inceer 820 (KTUB).

**C. vuralii** Yıldız in Ot Sistematik Botanik Dergisi 28(1-2): 151 (2021). [Yıldırımlı, 2021b]
E. aksarayense Yild. in Ot Sistematik Botanik Dergisi 27(1-2): 63 (2020). [Yıldırımlı, 2020c]

Type: Turkey. B4 Aksaray: Erzurum, Tuzgölü’ne doğru 3. ve 5. km, çoruk ve tuzçul alanlar, y. 500 m, 27.07.2014, Ş. Yıldırımlı 40408 (holo. Yıldırımlı Otluk’u (Hb. Yıldırımlı); iso. HUB).

**Podospermum DC.**

**P. dincii** Yild. in Ot Sistematik Botanik Dergisi 27(1-2): 69 (2020). [Yıldırımlı, 2020c]

Type: Turkey. B3 Eskişehir: Sivrihisar, Aşağıkepen köyü yakını, jipizli ve kireçli yerler, tepe, baya, y. 1000 m, 18.05.2013, Ş. Yıldırımlı 38872 & H. Işıl Yıldırımlı (holo. Yıldırımlı Otluk’u (Hb. Yıldırımlı); iso. HUB).

**P.omeri** Yild. in Ot Sistematik Botanik Dergisi 27(1-2): 73 (2020). [Yıldırımlı, 2020c]

Type: Turkey. B10 Iğdır: Aralık, Nahçıvan sınır kapısına 12 km beride, yol kıyısı, 825 m, 31.05.1998, Ş. Yıldırımlı 21973 & A. Polat (holo. Yıldırımlı Otluk’u (Hb. Yıldırımlı); iso. HUB, Hb. Yıldırımlı).

**Tripleurospermum Schultz Bip.**

**T. fissurale** (Sosn.) E. Hossain var. radiata Özdeb in Biodicon 13(2): 138 (2020). [Özdeb & Onaylı, 2020]

Type: Turkey. A8 Artvin. Yusufeli, 1.5 km from Dereiçi village, rocky slopes, 40°51’43”E, 41°31’30”N, 25 May 2019, 745 m, U.Ozbek 3117 & M. Ekici (holotype: GAZI, isotype: AE, ANK, NGBB).

**CRUCIFERAE**

**Aethionema R. BR.**

**A. aythach** Ertuğrul & Hamzaoğlu in Turk J Bot 45: 564 (2021). [Ertuğrul et al., 2021]

Type: Turkey. B4 Ankara: Ayaş, around Aysantı Pass, marly hills along roadsides, 1190 m, 31.v.2019, K.Ertuğrul 5757 & T.Körüklü (holotype: KNYA; isotypes: GAZI, ANK).

**A. sancakense** Yild. & Kiliç in Ot Sistematik Botanik Dergisi, 26(2): 54 (2019). [Yıldırımlı & Kiliç, 2019a]

Type: Turkey. B8 Bingöl, Merkez, Aşağıköy’e doğru 7 km, meşe ormanı ağaçığı, yamaç, 1450-1550 m, 19.05.2018, Ş. Kiliç 5687 & Ş. Yıldırımlı (holyotype: YILD; iso: GAZI, YO).

**Descurainia Webb & Berth.**

**D. tugayi** Yild. in Ot Sistematik Botanik Dergisi, 26(1): 94 (2019). [Yıldırımlı, 2019b].
**Examined specimens:** Turkey, Kastamonu, Kure Mountains National Park, Pinarbasi district, 19 May 2019 (B. Tunçkol 4505, DUOF 1946).

**Scabiosa L.**

**e**S. ispartaca Yıld. in Ot Sistematik Botanik Dergisi, 26(1): 65 (2019). [Yıldırım, 2019a].

**Type:** C3 Isparta, Gülcük, göl kıyısı, kulmarlar, 1350 m, 2107.1991, Ş. Yıldırım 14645 (holo. Yıldırım Otluk’u (YO); iso. GAZI, YO).

*S. lucida* Vill. in Prosp. Hist. Pl. Dauphiné 17 (1779). [Aksoy, Çelik, Bozkurt, & Uysal, 2020]

**Examined specimens:** Turkey. Bayburt: Soğanlı Geçiti’nden Çaykar’aya iniş, alpin çayırlar, 40°38′51″E, 24.vi.2012, holotype: OUFE 16472, ayırm. yerler, 30°09′88″K, 039°24′56″D, 2060-2150 m, 25.07.2018, Aksoy 2958 & J. Çelik (AKDU 5974); aynı yer., 40°38′23″E, 039°24′52″D, 1900-2060 m, 19.08.2019 Aksoy 3109 & J. Çelik (AKDU 5972). Trabzon: Bayburt-Çaykara yolu, alpin çayırlar, 40°32′83″K, 040°13′97″D, 2055 m, 2055.2020, Aksoy 3171, Uysal & J. Çelik (AKDU 5973).

**e**S. sirnaka** Yıld. in Ot Sistematik Botanik Dergisi, 26(1): 70 (2019). [Yıldırım, 2019a].

**Type:** C9 Şırnak, Kumcuşat, yol kıyısı, kura dere ve tepeler, 600 m, 26.06.1997, Ş. Yıldırım 20352 & A.A. Dönmez (holo. Yıldırım Otluk’u).

**e**S. sivrihisarica Yıld. in Ot Sistematik Botanik Dergisi, 26(1): 73 (2019). [Yıldırım, 2019a].

**Type:** B3 Eskişehir, Karacaören village, Arayit (Eryiğit) Mountain, marble rocks and scree, 1670–1820 m, 39°17′47″N, 31°45′08″E, 24.vi.2012, holotype: OUFE 16472, close to the Dibek Nature Conservation Area, scree, 1160 m elevation, 15 June 2017, A. Özçandır 1885 & C. Aykurt (holotype: AKDU; isotype: HUB).
**Type:** Turkey. A5 Kastamonu: Hanönü to Taşköprü 3 km, 500 m, in open areas of Pinus brutia forest, 26/VI/2019, H. Duman 10558 (Holotype: GAZI; isotypes: ANK, HUB).

*e** A. bartinense Aytaç, Tunçkol et N. Aksoy in Acta Botanica Croatica, 79(2), 132 (220). [Tunçkol, Aytaç, Aksoy, & Fişne, 2020]

Type: Turkey. A4 Bartin, Ulus, Kür Mountains National Park, above Abdurrahman village, 550 m a.s.l., limestone rocky areas, 11 June 2016, Tunçkol 2271. (Holotype: GAZI; Isotypes: ANK, DUOF).

*e** A. nurhakagensis Uzun, Aytaç & Tülüçü in Turk J Bot 45: 577 (2021). [Uzun, Aytaç, & Tülüçü, 2021]

Type: Turkey. B6 Kahramanmaraş: Nurhak Mountain, 21 km from the centre of Nurhak, 2000 m, steppe, calcareous rocks, 17 June 2020, Tülüçü 46 & Uzun (holo. GAZI, iso. ANK, HUB).

*e** A. sertavulensis Uzun, Aytaç & Tülüçü in Turk J Bot 45: 4688 (2021). [Uzun, Aytaç, & Tülüçü, 2021]

Type: Turkey. C6 Hatay: Küçükkaraçay, road and field sides, 50–110m, 19 April 2009, F. Güneş 2016. (Holotype NGBB, Isotype MUGE, HUB, NGBB).

**Dorycnium Mill.**

*D. pentaphyllum* Scop. Fl. Carniol. ed. 2. 2: 87 (1771). subsp. *pentaphyllum* [Vladimirov, Aybeke, & Tan, 2021]

**Examined specimens:** A1(Edirne) Edirne: Budekçoğanca, in grasslands, 98 m, 41°46′09.1″ N, 26°22′10.2″E, 22.06.1987, coll. G. Dalgıç & A. Asan, det. M. Aybeke (EDTU 16810). A1(E) Tekirdağ: Hayrabolu, grasslands, 98 m, 41°46′09.1″ N, 26°22′10.2″E, 13.06.2017, coll. A. Asan, det. M. Aybeke (EDTU 1518).

**Hypericum L.**

*e** H. alacamdaglariense H. Duman & E.G.Çakır in Phytotaxa 470 (2): 177 (2020). [Duman & Çakır-Dindar, 2020]

Type: Turkey. B1 Balıkesir: Büyükçağ, Hacıömer Deresi village, South of Sankaya, 1184 m, on metamorphic cliffs, 355 635659 4357103, 28.07.2015, H. Duman 10377 (Holotype: GAZI; iso. HUB, ANK, DUP). (Isotype: GAZI, BM; isotypes ANK, BM, EGE, GAZI, HUB, ISTE).

*e** H. cuisinii* Barbey subsp. *anatolicum* Dirmenci & N.Robson in Kew Bulletin 74: 66 (2019). [Dirmenci & Robson, 2019]

Type: Turkey. Aydın: Kuşadası, Dilek Peninsula National Park, steep rocky slopes, 1177 m, 22 July 2016, Dirmenci 4585 (holotype GAZI, isotypes GAZI, ANK, HUB).

**Globularia L.**

*e** G. orientalis* L. var. *nevsehirensis* Akgül in Ot Sistematik Botanik Dergisi, 26(2): 35 (2019). [Akgül & Kılıçkaya, 2019]

Type: B5 Nevşehir, Nevşehir-Avanos arası, Nevşehir‘den Avanos’a 5–7 km, 1200 m, taşlık yamaçlar, 14.04.2017, G. Akgül 2841 (holo. ANK).

**Lathyrus L.**

*e** L. cirpicii* F. Güneş in Biodicon 12(2): 162 (2019). [Güneş, 2019]

Type: Turkey. C6 Hatay: Küçükkaraçay, road and field sides, 50–110m, 19 April 2009, F. Güneş 2016. (Holotype NGBB, Isotype MUFE, HUB, NGBB).

**Onobrychis Adans.**

*e** O silvanensis* Aytaç, Rabateau & Coulot in Phytotaxa 477 (2): 254 (2020). [Aytaç, Rabateau, & Coulot, 2020]

Type: Turkey. Dijarbakır: Dijarbakır–Silvan, 1–2 km, 683 m, steppe, P. Coulot & Ph. Rabateau s.n., 27 May 2009 (Holotype MPU1019256; Isotypes GAZI, personal herbaria of P. Coulot and Ph. Rabateau).
**L. ponticum** Miller subsp. *anatolicum* Celep in Phytotaxa 511(1): 73 (2021). [Celep, Karaer, & Duman, 2021]

**Origanum L.**

*e**O. × *aytacii* Dirmenci, T. Yazıcı & Arabacı in Plant Biosystems 155(3): 473 (2021). [Arabacı et al., 2021]

**Satureja L.**

*e**S. anatolica* Celep in Phytotaxa 511(1): 73 (2021). [Celep, Karaer, & Duman, 2021]

**Stachys L.**

*e**S. ahmet-savranii* Doğu & Bağcı in Bangladesh J. Bot. 50(2): 320 (2021). [_Doğu & Bağcı, 2021]

**Teucrium L.**

*e**T. semrae* Aksoy, Dirmenci & Özcan in Turk J Bot, 44(3), 326 (2020). [Aksoy, Özcan, Giriksen, Çelik, & Dirmenci, 2020]

**Linum L.**

*e**L. aksehirensis* Tugay & Ulkuş in PhytoKeys 136: 25 (2019). [Tugay & Ulkuş, 2019]

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**Type**: Turkey. A3 Ankara: Beypažari district, between Kırbaşı to Uşakbükü, salty floors on gypsum hills, 36°T 0395037-4429963, 810 m, 11.06.2016, Koç 2308 & Hamzaoğlu (Holotype: GAZI, isotypes: ANK, HUB, GAZI).

**LAMIACEAE**

**Lamium L.**

*e**L. ponticum** Miller subsp. *anatolicum* Celep in Phytotaxa 511(1): 73 (2021). [Celep, Karaer, & Duman, 2021]

**Origanum L.**

*e**O. × *aytacii* Dirmenci, T. Yazıcı & Arabacı in Plant Biosystems 155(3): 473 (2021). [Arabacı et al., 2021]

**Satureja L.**

*e**S. anatolica* Celep in Phytotaxa 511(1): 73 (2021). [Celep, Karaer, & Duman, 2021]

**Stachys L.**

*e**S. ahmet-savranii* Doğu & Bağcı in Bangladesh J. Bot. 50(2): 320 (2021). [_Doğu & Bağcı, 2021]

**Teucrium L.**

*e**T. semrae* Aksoy, Dirmenci & Özcan in Turk J Bot, 44(3), 326 (2020). [Aksoy, Özcan, Giriksen, Çelik, & Dirmenci, 2020]

**Linum L.**

*e**L. aksehirensis* Tugay & Ulkuş in PhytoKeys 136: 25 (2019). [Tugay & Ulkuş, 2019]
**Type:** Turkey. B3 Konya; Akşehir, Sultan Mountains, slopes in *Pinus nigra* forest, 1150 m alt., 38°19.230’N, 31°23.181’E, 01 August 2017, O.Tugay 14.542 & D.Ulukuş (holotype KNYA, isotypes KNYA 28.229).

**MALVACEAE**

*Kitaibela* Willd.

*K. vitifolia* Willd. in Neue Schriften Ges. Naturf. Freunde Berlin ii. 108 (1799). [Tugay, Ertuğrul, Aslan, & Ulukuş, 2019]

Examined specimen: C6 Osmaniye; Amanos Dağları, *Pinus* ormanı açıklıkları, 1400 m, 26.vii.2014, O. Tugay 10.138 (KNYA).

*Malvastrum* A. Gray

*M. cornelianum* (L.) Gracke in Bonplandia 5(18): 295 (1857). [Yıldırım, Özdöl, & Yaşayacak, 2019]

Examined specimen: Osmaniye: Alibekirli Mahallesi, Bahçe içleri ve tarım arazileri, 37° 03′29.70″ K, 36°16′09.08″ D; 176 m, 21.08.2018, M. Çelik, H. Yıldırım 7690 (EGE).

**OROBANCHACEAE**

*Phelipanche* Pomel

*P. gussoneana* (Lojac.) Domina, Raab-Straube, Rätzel & Uhlich in Willdenowia 48(2): 209 (2018). [Raab-Straube & Raus, 2021]

Examined specimens: Turkey. 20 km W of Trabzon, mountain slope, on *Plantago* sp., 8 May 1970, Horreüs de Haas 171 (L.2816621; det. Uhlich 12 Jul 2021).

*P. olbiensis* (Coss.) Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 79 (2008). [Raab-Straube & Raus, 2020]

Examined specimens: Turkey. Bolkar Daghlari, Karagol-Kar, Hange westlich Meydan, 37°25’N, 34°37’E, 2450 m, Zwergstrauchflur, karbonatisches Substrat, 7 Aug 1992, Hein 89-7a (B 10 066639, det. Parolly 1996 as *Orobanche mutelii* F. Schultz, rev. Ratzel 11 Mar 2020).

*Phlomis* GilibERTI

*L. davisii* Doğan in Plant Systematics and Evolution 306(6): 89 (2020). [Doğan, Akaydın, & Erdal, 2020]

**POLYGONACEAE**

*Reynoutria* Houtt.

*R. japonica* Houtt., Nat. Hist. 2(8): 639 (1777). [Karaer, Terzioğlu, & Kutbay, 2020]

Examined specimen: A6 Samsun - Terme, Bazlamaç district, field margins, roadsides, 210-315 m, 16.10.2014, F. Karaer 30135 (OMUB), Ibid. 250-425 m, 15. xi. 2014, F. Karaer 30375 (OMUB), (KATO 19251)

*Rheum* L.

**PRIMULACEAE**

*Androsace* L.

**e**L. *azizzancarii* Sefali in Nord J Bot 39(7)-e03208: 4 (221). [Sefali, 2021]
**Dionysia Fenzl**

*D. zeynepiae* Güzel in Phytotaxa 525(4): 282 (2021). [Güzel, 2021]

**Type:** Turkey. C6 Hatay: Antakya, Habib-i Neccar Mountain, Demirkapı vicinity, rock crevices of the cliffs, 36°12′26″N 36°10′53″E, 195 m elevation, 2 February 2021, Y. Güzel 3450 (holotype: HUB; isotype: ANK).

**RANUNCULACEAE**

*Ranunculus L.*

*R. aydogdui* Karaman, Tekşen & H. Duman in Nordic Journal of Botany 39(1): 2 (2021). [Karaman-Erkul, Tekşen, & Duman, 2021]

**Type:** Turkey. Aksaray: 3 km east of Eskil, salty steppe, 1000m a.s.l. 22 jun 2017, M. Tekşen & S. Karaman 3239 (holotype: GAZI; isotype: AKSU).

*R. solhanensis* Behçet & A. Sinan in Phytotaxa 497(2): 158 (2021). [Sinan, Behçet, & Yapar, 2021]

**Type:** B8 Bingöl, Solhan, Yaylım Mountain, rocky slopes, 38°80′267″N 40°98′814″E, 1713 m a.s.l., 08 April 2018, A.Sinan 1781 (holotype: Bingöl Univ. Biology Dept. Herbarium (BIN), isotypes Bingöl Univ. Biology Dept. Herbarium and ANK).

**RUBIACEAE**

*Asperula L.*

*A. cankiriense* B. Şahin & Sağıroğlu in Turk J Bot 45: 247 (2021). [Şahin, Sağıroğlu, & Başer, 2021]

**Type:** Turkey. A4 Çankırı: Süleymanlı village, Salt cave road, gypsum steppe, 600–700 m, 23.06.2016. B. Şahin 6526 & M. Sağıroğlu (holotype GAZI, isotypes: GAZI, HUB, ANK).

*Cruceanella L.*

*C. turcica* Hamzaoğlu in Türker ve Habitatlar 2(2): 115 (2021). [Hamzaoğlu, 2021a]

**Type:** Turkey. Kayseri: Tomarza, Toklar ve Işıklar köyleri arası, Kızıldağ etekleri, 1600 m, taşlı bozkır, 4.7.2021, E.Hamzaoğlu 7877 (holotip: GAZI; izotipler: GAZI, ANK).

**Plocama Aiton**

*P. calabraca* (L.f.) M. Backlund & Thulin var. *alba* Göktürk, O. D. Düşen, B. Gürçan & U. Sarpkaya in Acta Bot. Croat. 78 (2), 143 (2019). [Göktürk, Düşen, Kaya, Gürçan, & Sarpkaya, 2019]

**Type:** Turkey. C2 Denizli: Çameli, between Akpınar and Yaylapınar villages, limestone slopes, 1166 m, 21 June 2017, O. D. Düşen (2584) & R. S. Göktürk (holotype: PAMUH, isotypes Akdeniz Univ. Herb.).

**ROSACEAE**

*Pyrus L.*

*P. pyraster* (L.) Burgsd. in Anl. Erzieh. Holzart. 2: 193 (1787). [Aydın Uğurlu & Dönmez, 2019]

**Examined specimen:** Turkey. Kırklareli: 5. Km from Dereköy to Şükürpaşa, N 41°56′13″, E 027°25′09″, 452 m, 14.10.2012, ZUG 466-A.A. Dönmez (HUB).

**SAXIFRAGACEAE**

*Saxifraga L.*

*S. artvinensis* V. A. Matthews subsp. *meryemii* Terzioğlu & Coşkunç, in Turk J Bot 43: 689 (2019). [Terzioğlu, Coşkunçelebi, & Güzel, 2019]

**Type:** Turkey. A7 Trabzon: Altınindere Vadisi National Park, around the Sumela Monastery, 1126 m, 31.03.2013, Terzioğlu & Coşkunçelebi 1246 (KATO 9843), holo: KATO; iso: KTUB.

**SCROPHULARIACEAE**

*Scrophularia L.*

*S. vernalis* L. in Sp. Pl. 2: 620 (1753) [Uzunhisarcıklı, Güner, Özbek, & Ekici, 2019]

**Examined specimens:** Turkey. Artvin: Borçka, Karagöl, on clearings of *Pinus sylvestris* forest, ca. 1400 m, 4 june 2015, M.E. Uzunhisarcıklı 2678 (GAZI).

**Verbascum L.**

*V. × aytachii* H. Duman & Uzunh. in GU J Sci, 34(4): 938 (2021). [Duman, Uzunhisarcıklı, & Özbek, 2021]

**Type:** Turkey. B2 Bursa: Orhaneli, SW of Çeki village, 19.vii.2017, serpentine areas, M. E. Uzunhisarcıklı 2720a & H. Duman (holotype GAZI, isotypes ANK, HUB).

*V. × ekicii* H. Duman & Uzunh. in Botany Letters, 167 (4): 410 (2020). [Duman, Uzunhisarcıklı, & Özbek, 2020]

*V. × malkaraense* Demir, Cingay & Cabi in Bağbahçe Bilim Dergisi 8(3): 10 (2021). [Demir, Çingay, & Cabi, 2021]

**Type:** Turkey. Tekirdağ: Malkara-Keşan yolu, Haliç-Danışment köyü arası, orman açıklığı, yol kenarı, 286 m, 3.vi.2019, O. Demir(1172a) ve F. Demir ( holo.NGBB 009556; iso.CBB).

*V. × seydisehirense* Tugay & Ulukuş in Phytotaxa 450 (2): 230 (2020). [Ulukuş, Tugay, & Sağlam, 2020]

**Type:** Turkey. C4 Konya; Seydişehir, Kozlu Village, steppe, 1700 m alt, 37°38.356′N, 32°03.543′E, 26 August 2017, O.Tugay 14915, C.Sağlam & D.Ulukuş (holotype: KNYA, isotype: NGBB).
UMBELLIFERAE

Astrodaucus Drude

*A. orientalis* (L.) Drude var. *ericarpus* (Boiss.) Woronow in Exsicc. (Fl. Cauc.). 289 (1927). [Sert & Aytaç, 2021]

Examined specimens: Turkey. A5 Çorum: Bayat, Çerçeş köyü yuvarlanı, orman açıklığı, taşlı yamaçlar, 1300 m, 03.07.2020, R. Sert 1692 (GAZI).

Bunium L.

*e**B. sancakense* Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(1): 42 (2019). [Yıldırımlı & Kılıç, 2019h]

Type: B8 Bingöl, Sancak, Hasanova mezrası çevresi, bozkır, taşlı alanlar, y.1550-1600 m, 36°28′39″ ′N, 146 (2019). [Gürdal, Tuncay, & Akpulat, 2019]

*e**B. sivasicum* M. Çelik & Y. Bağcı in Phytotaxa 416 (4): 266 (2019). [Çelik & Bağcı, 2019]

Type: Turkey. B6 Sivas: Şarkışla, Mescit village, Demirkaya hill, 13.08.2016, 2156 m, steppe, M. Çelik 476 (holotype: KNYA, isotypes: KNYA, HUB, ANK).

Bupleurum L.

*B. aequiradiatum* (H. Wolff) Snogerup & B. Snogerup in Wildenowia 31(2): 302 (2001). [Raab-Straube & Raus, 2020]

Examined specimens: Turkey. B8 Bingöl: Bodrum, Gölköy (Göltürkbükü), female, 26 July 2015, 38°30′14″ N, 043′43″03″ E, 1215 m, 15.07.2014, M. Fırat 31182, VANF & private herb M. Fırat; ibid. 20.08.2015. M. Fırat 32626. VANF & private herb M. Fırat (in fruit).

Prangos Lindley

*e**P. aricakensis* Behçet & Yapor in Phytotaxa 401(1): 56 (2019). [Behçet, Yapor, & Olgun, 219]

Type: Turkey. B9 Bitlis: Hizan Province, İhtiyarşahap Mountains (Lolan hill), Mêrga Mehîr plateau, rocky, stone, and calcareous cliffs, 37°30′14″ ′N, 043°43″34″ E, 1215 m, 15.07.2014, M. Fırat 32618 (holotype: VANF, isotypes: HUB, ANK and Herb. M. Fırat).

Habdosciadium Boiss.

*e**R. hizanense* Firat & Güzel in Phytotaxa 395 (3): 1828 (2019). [Fırat & Güzel, 2019]

Type: Turkey. B9 Bitlis: Hizan Province, İhtiyarşahap Mountains (Lolan hill), Mêrga Mehîr plateau, rocky, stone, and calcareous areas, 2221 m, 38°21′39″ N, 42°25′39″ E, coll. 2 August 2015, M. Firat 32618 (holotype: VANF, isotypes: HUB, ANK and Herb. M. Fırat).

Seseli L.

*e**S. salsugineum* A. Duran & Lyskov in Phytotaxa 529 (1): 35 (2021). [Duran, Samıgullin, & Lyskov, 2021]

Type: Turkey. C4 Konya: Cihanbeyli, between Gölyazı-Tuz Gölü, 9th kilometer, 923m, salty marshes, 25 September 2011, A.Duran & et al. 9855 (holotype: HUB, isotypes: ANK, MW barcode MW0595744, MW0595746, MW0595747).

Trigonosciadium Boiss.

*e**T. solhanense* Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(1): 48 (2019). [Yıldırımlı & Kılıç, 2019h]

Type: Turkey. C4 Antalya: Near Beyreli village, 1550 m, 26 June 2015, 36°50′24″N, 32′22″14.41″ E, M. Miski, E. Akalın & S. Anlı. (holotype: ISTE 117051).

Peucedanum L.

*e**P. akliniae* Akpulat, Gürdal & Tuncay in Phytotaxa 518 (2): 101 (2021). [Gürdal, Tuncay, Yapor, & Akpulat, 2021]

Type: Turkey. C4 Antalya: Near Beyreli village, 1550 m, 26 June 2015, 36°50′24″N, 32′22″14.41″ E, M. Miski, E. Akalın & S. Anlı. (holotype: IST 117051).

ARECACEAE

Phoenix L.

*e**P. theophrasti* Greuter subsp. *golkoyana* Boydak in Forestist, 69(2): 141 (2019). [Boydak, 2019]

Type: Turkey. C1 Muğla: Bodrum, Gökşöy (Göltürkbükü), female, latitude 37.1147° N, longitude 27.3981° E, Plain, 3 m., 27 August
ARACEAE

Zantedeschia K.Koch

*Z. aethiopica* (L.) Spreng. in Syst. Veg., 3: 765 (1826). [Yıldırım & Erdem, 2019]

Examined specimen: Muğla: Ula, Akçapınar Mahallesi, Akçapınar Azmağı kenarı bataklık alanlar, 37° 01′ 39.9″ K, 28° 21′ 10.6″ D, 10 m, 26. Iii. 2019, H. Yıldırım 7551, B. Topçuoğlu (EGE-43189).

ASPARAGACEAE

Chionodoxa Boiss.

e**C. salbacus** Yıldırım in Bağbahçe Bilim Dergisi 8(1): 77 (2021). [Yıldırım & Altıoğlu, 2021]

Type: Turkey. Denizli: Babadağ, Karababa tepesi altı, kuzey yamaç, açık yamaçlar, şistli topraklar üzeri, 1569 m, 09 iv 2014, H. Yıldırım 2797, Y. Altıoğlu, R. Çetiner ve Z. Doğmaz (holotip: EGE, izotipler: EGE, NGBB, ANK)

■■ Gemicia Yıldırım in Bağbahçe Bilim Dergisi 8(1): 40 (2021). [Yıldırım, 2021]

Type species: *Gemicia vardariana* (Yıldırım & Y. Gemici) Yıldırım (≡ *Scilla vardaria* Yıldırım & Y. Gemici).

e**G. vardariana** (Yıldırım & Y. Gemici) Yıldırım in Bağbahçe Bilim Dergisi 8(1): 41 (2021). [Yıldırım, 2021]

Type: Turkey. Rize: Çamlıhemşin, Kaçkar Mountain, 1520 m, openings in *Picea orientalis* forests, 28.iv.2010, H. Yıldırım 1675 (holotype EGE; isotypes K; EGE; HUB and Herb. Yıldırımlı).

Leopoldia Parl.

e**L. archibaldii** Rukşāns in International Rock Gardener 134 (2020) [Rukşāns, 2020b]

Type: Turkey. Erzincan Province, roadside after the Pülümür valley along the road from Tunceli to Erzincan, 2004, BATM-282, 39°35.970’N 39°51.949’E, alt. 1300 m. Holo: GB – ex culturae in horto Jānis Rukšāns.

Loncomelos Raf.

e**L. koprulense** Bogdanović, Brullo & Salmeri in PhytoKeys, 175, 35 (2021). [Bogdanović, Brullo, & Salmeri, 2021]

Type: Turkey. Antalya: District of Manavgat, Köprülü Kanyon National Park, Bozyaka road, cultivated specimen, 15 June 2010, Brullo s.n. (Holotype: CAT).

Puschkinia Adams

e**P. kurzistanica** Rukşāns in International Rock Gardener 116 (2019) [Rukşāns, 2019]

Type: Plants from E Turkey, S coast of Lake Van, 19 km after Tatvan along the Tatvan-Van rd, 38°28’N and 42°29’E; alt. apr. 1670 m., leg. Rukşāns, Seisums & Zetterlund 26th of May, 2004 as BATMAN-060. Holotype GB (Gothenburg) ex culturae in horto Jānis Rukşāns, 05-04-2019.

Cyperaceae

Eleocharis R.Br.

e**E. divaricata** M.Keskin in Front Life Sci RT 2(1): 10 (2021). [Keskin & Merrick, 2021]

Type: Turkey, Antalya: Konyaaltı, Boğa çayı vicinity, 4xii.2020, D.Merrick (Holo NGBB)

Gramineae

Arrhenatherum P. Beauv.

* A. elatius* (L.) P. Beauv. ex J. Presl. & C. Presl. subsp. *bulbosum* (Willd.) Schübl. & Martens in Fl. Vürtemberg 70 (1834). [Terzioğlu, 2020]

Examined specimen: A8 Rize - Fındıklı, in tea and hazelnut plantations, 35 m, 29.05.2019, UTM: 0680491, 4569884, KATO 2320

Bromus L.

* B. arvensis* L. subsp. *parviflorus* (Desf.) H. Scholz in Florist. Rundbr. 36: 35 (2002). [Raab-Straube & Raus, 2019]

Examined specimen: Turkey. W Anatolia, Bafa Gölü, W side, c. 1.5 km S of Serçin, 37°31′47″N, 27°23′11″E, 2 – 5 m, abandoned field near waterside, salt influenced, 9 May 2006, Ristow (herb. Ristow).

e**B. orientalis** Behçet & Yapar in Nord J Bot 39(4)-e02959: 2 (2021). [Behçet & Yapar, 2021]

Type: Turkey. B8 Bingöl: Çapakçur Valley, Alıncak between Aşağıköy, moist forest clearances, 1577 m a.s.l., 38°51′55.14″N, 40°24′57.48″E, 13 Jul 2018, Behçet & Yapar 15773 (holotype: Bingöl Univ. Biology Dept. Herbarium, isotypes: Bingöl Univ. Biology Dept. Herbarium and ANK).

Leptatherum Nees

* L. boreale* (Ohwi) C.-H. Chen, C.-S. Kuoh & Veldk. in Blumea 54: 179 (2009). [Terzioğlu & Özkan, 2020]

Examined specimen: Trabzon, Sürmene, Çamburnu, in Scots pine forest including Çamburnu Nature Park, along the road, 10 m, 10.11.2019, UTM: 0602590 - 4531287, KATO 24445

Iridaceae

Crocus L.

e**C. akdagensis** Kerndorff & Pasche in Stapfia 103: 76 (2015) [Kerndorff, Pasche, & Harpke, 2015]

Type: Turkey. Pisidia, Burdur Province, Akkaya Tepesi, 1600-1700 m, 19.03.2002, HKEP 0211 (Gatersleben GAT 7128).
**C. akkayaensis** Kerndorff & Pasche in Stapfia 103: 74 (2015) [Kerndorff et al., 2015]

**Type:** Turkey, Lycia, Antalya Province, eastern Ak Dağlar, 1500-1600 m, 20.02.2011, HKEP 9721 (Gatersleben GAT 7389).

**C. asymmetricus** Erol in Phytotaxa 430: 74 (2020). [Ciftci, Harpke, Mollman, Yıldırım, & Erol, 2020]

**Type:** Turkey, Kahramanmaraş, border of Maraş – Osmaniye, Ceyhan Valley 850–920m a.s.l., 6 March 2019, Mehmet Çelik s.n.

**C. rechingeri** Kerndorff & Pasche in Stapfia 101: 9 (2014) [Kerndorff et al., 2014]

**Type:** Turkey, Lycian Taurus, Antalya province, Babadağ, 1200-1400 m, 15.3.2001, HKEP 0115 (Gatersleben, GAT 7246)

**C. bowlesianus** Kerndorff & Pasche in Stapfia 103: 75 (2015) [Kerndorff et al., 2015]

**C. concinnus** Kerndorff & Pasche in Stapfia 101: 10 (2014) [Kerndorff, Pasche, & Harpke, 2014]

**C. xanthosus** Kerndorff & Pasche in Stapfia 103: 77 (2015) [Kerndorff et al., 2015]

**C. zetterlundii** Rukšāns in International Rock Gardener 64 (2015) [Rukšāns, 2015]

**C. sakaltutanensis** Rukšāns in International Rock Gardener 76 (2016) [Rukšāns, 2016]

**C. asymmetricus** Erol in Phytotaxa 430: 74 (2020). [Ciftci, Harpke, & Erol, 2019]

**Type:** Turkey, Muğla: Marmaris, ca. 65 m a.s.l., 13 December 2018, O. Erol & A. Gemicioğlu (holotype, ISTF 41368)

**C. xanthosus** Kerndorff & Pasche in Stapfia 103: 77 (2015) [Kerndorff et al., 2015]

**C. terzioghluii** Erol in Phytotaxa 420(3): 225 (2019). [Ciftci, Harpke, & Erol, 2019]

**Type:** Turkey, Adana Province, yaila below Kaan Geçidi, 38°13.168’E, alt.1220m: 24-03-2014. Rukšāns, 14TUS-029. Holo: GAT.

**C. harpkeae** Rukšāns in International Rock Gardener 125 (2020) [Rukšāns, 2020a]

**C. sakaltutanensis** Rukšāns in International Rock Gardener 76 (2016) [Rukšāns, 2016]

**Type:** Turkey, Lycia, Antalya Province, Salur dağ, 1500-1600 m, 20.02.1997, HKEP 9701 (Gatersleben GAT).

**C. stevensii** Rukšāns in International Rock Gardener 76 (2016) [Rukšāns, 2016]

**Type:** Turkey, Lycia, Antalya Province, Kofu dağ, 1400-1500 m, 10.03.2001, HKEP 0124 (Gatersleben GAT 7126)

**C. zetterlundii** Rukšāns in International Rock Gardener 64 (2015) [Rukšāns, 2015]

**C. terzioghluii** Erol in Phytotaxa 420(3): 225 (2019). [Ciftci, Harpke, & Erol, 2019]

**C. xanthosus** Kerndorff & Pasche in Stapfia 103: 77 (2015) [Kerndorff et al., 2015]

**Type:** Turkey, Antalya Province, Gembos Yaila, 37°15.855’N, 31°27.646’E, alt.1220m: 24-03-2014. Rukšāns, 14TUS-029. Holo: GAT.

**C. gembosii** Rukšāns in International Rock Gardener 76 (2016) [Rukšāns, 2016]

**Type:** Turkey, Adana Province, near Bakırlı yaylasi, altitude 1360m).

**C. alba** (G.L.Mey.) J.C.Manning & Goldblatt in Strelitzia 27: 70 (2010). [Eker & Tuzlacı, 2021]

**C. sakaltutanensis** Rukšāns in International Rock Gardener 76 (2016) [Rukšāns, 2016]

**Type:** Ex culturae in horto Jānis Rukšāns. (Plants from S.W. Turkey, Honaz Dağı, over vil. Honaz, alt.1650m J. Archibald.). Cultivated plants collected on 29.02.2016. Holotype: GAT.

**C. gembosii** Rukšāns in International Rock Gardener 76 (2016) [Rukšāns, 2016]

**Type:** Ex culturae in horto Jānis Rukšāns. (Plants from N.E. Turkey, Erzincan Province, Sakaltutan mountain pass 39.870523°N, 39.134231°E, alt. 2120m). Cultivated plants originally collected on 28-05-2009, long after blooming, with almost dry leaves (Rukšāns, JRRK-011). Holotype: GAT; Isotype: ISTF.

**F. leichtlinii** Klotz subsp. alba (G.L.Mey.) J.C.Manning & Goldblatt in Strelitzia 27: 70 (2010). [Eker & Tuzlacı, 2021]

**Examined specimens:** A2(A) İstanbul: Burgazada, orman içi açıklık, 91 m, 09 v 2017, H.I. Tuzlacı 752 (ABU); Burgazada, orman içi, 31 m, 23 iii 2017, H.I. Tuzlacı 647 (ABU); Heybeliada, orman içi açıklık, 15 m, 22 iii 2016, H.I. Tuzlacı 634 (ABU); Kınalıada, orman içi açıklık, 15 m, 22 iii 2017, H.I. Tuzlacı 647 (ABU); Heybeliada, orman içi açıklık, 31 m, 23 iii 2017, H.I. Tuzlacı 647 (ABU); ibid., H.I. Tuzlacı 634 (ABU); Kınalıada, makilik, 62 m, 09 iii 2016, H.I. Tuzlacı 168 (ABU); Kınalıada, orman içi açıklık, 72 m, 24 iv 2018, H.İ. Tuzlacı 964 (AIBU); ibid., H.İ. Tuzlacı 964 (AIBU); Kınalıada, orman içi açıklık, 54 m, 22 iii 2016, H.I. Tuzlacı 222 ve İ.Eker (AIBU); Kınalıada, orman içi açıklık, 45132 & Ö. kıyısı, karkal, bayır, 1740 m, 23.04.2019, Ş. Yıldırımlı 45132 & Ö. kıyısı, karkal, bayır, 1740 m, 23.04.2019, Ş. Yıldırımlı 45132 & Ö. Yıldırımlı Otluk’u (YO); iso. GAZI, YO).

**Freesia Eckl. ex Klatt**

**I. yedisuensis** Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(2): 2 (2019). [Yıldırımlı & Kılıç, 2019b].

**Type:** B8 Bingöl, Karlıova’dan Yedisu’ya doğru, y. 30 km, yol kıyısı, karkal, bayır, 1740 m, 23.04.2019, Ş. Yıldırımlı 45132 & Ö. Kılıç (holo. Yıldırımlı Otluk’u (YO); iso. GAZI, YO).
Gladiolus L.
e**G. aladagensis** Eker & Sağiroğlu in Phytotaxa 478 (1): 152 (2021). [ Sağiroğlu & Eker, 2021]

**Type:** Turkey. A3 Bolu: Between Karacasu-Kibrıscık, 34. km, along stream bed in the Pinus sylvestris forest openings, 1484 m of elevation, 07 July 2019, I. Eker 12727 & M. Sağiroğlu (holotype AIBU; isotypes Herbarium of Sakarya University, GAZI, HUB).

e**G. hamzaoglui** H. Duman, Sağiroğlu & Tekşen in Phytotaxa 496 (3): 247 (2021). [Tekşen, Duman, & Sağiroğlu, 2021]

**Type:** Turkey. Erzincan: İliç, N of Çakmaktepe, 1290 m elevation, serpentine gravelly slopes and slightly moist meadows, 10 July 2020, H. Duman 10626 (holotype GAZI; isotypes HUB, ANK).

e**G. izzet-baysalii** Eker & Sağiroğlu in Phytotaxa 527 (2): 98 (2021). [Eker & Sağiroğlu, 2021]

**Type:** Turkey. C4 Karaman: Sarıveliler, above Göktepe, Saçak forest openings, 1484 m along stream bed in the Pinus sylvestris forest openings, 07 July 2019, H. Duman 10626 (holotype GAZI; isotypes HUB, ANK).

LILIACEAE

**Allium L.**
e**A. adiyamanense** Yld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(1): 34 (2019). [Yıldırımlı & Kılıç, 2019]

**Type:** C7 Adıyaman, Koçali-Çelikhan arası, sulu vadi, meşe (Quercus brandii) ormanı, 1061-1120 m, 29.04.2018, Ş. Yıldırımlı & Kılıç (holotip, Yıldırımlı Otluk’u (YO); iso. GAZI, YO).

e**A. dönmezii** M. Fidan 11 April 2017, (holotype, EGE, isotypes, EGE, NGBB, ANK).

**Type:** Turkey. Hatay: Belen, Amanos Dağları, Karlık Tepe, kırık kayalık yamaçlar, 2570 m, 27 July 2015, H. Yıldırım 3487 (holotype HUB; isotypes EGE, NGGB).

e**A. sultanae-ismailii** Yıldırım in Phytotaxa 403 (1): 40 (2019). [Yıldırım, 2019]

**Type:** Turkey. Malatya: Hekimhan, Yama Dağı, open mountain slopes, calcareous rocky areas, 2150 m, 30.05.2012, H. Yıldırım 2400 (holotype EGE; isotypes EGE, NGGB).

e**A. yamadagensis** Yıldırım & Eker in Phytotaxa 400 (1): 031-036 (2019). [Eker & Yıldırım, 2019]

**Type:** Turkey. Malatya: Hekimhan, Yama Dağı, birch forest openings, 2570 m, 27 July 2015, H. Yıldırım 3487 (holotype EGE, isotypes EGE, NGGB, ANK, HUB).

Belleviala Lapeyr.
e**B. bayburtensis** Sefali & Yıldırım in Phytotaxa 441 (3): 286 (2020). [Yıldırım & Sefali, 2020]

**Type:** Turkey. Bayburt: Köpdağı silsilesi, Bahtlı Dağı, kırık taşlık ve çarşak alanlar, 2604 m, 40°02’ N, 40°30’ E, 01 June 2019, A.Sefali 433 (holotype: EGE 43190; isotypes: ANK, EGE 43191, NGGB).

e**B. guneriana** Tugay & Armağan in Bağbuhçe Bilim Dergisi 8 (3): 2 (2021). [Tugay, Armağan, & Ulukış, 2021]

**Type:** Turkey. Hatay: Belen, Amanos Dağları, Karlık Tepe, kırışçalı yamaçlar, Quercus coccifera kireçtaşlı yamaçlar, 900 m, 24.xiv.1957, P.H. Davis 27040 & Hedge (holotype / holotip: E00340644).

e**B. sasonii** Guner in Phytotaxa 394 (2): 127 (2019). [Fidan, 2019]

**Type:** Turkey. B8 Batman: Sason country Karameşe village road 1. km, 38°17’48.29”N, 41°19’53.97”E, forest clearance, 733 m, 11 April 2017, M. Fidan 3012 (holotype SUFAF; isotype VANF).

e**B. turcica** Pınar & Eroğlu in Biologia 74: 449 (2019). [Pınar & Eroğlu, 2019a]

**Type:** Turkey. C5 Karaman: Sarıveliler, above Göktepe, Saçak forest openings, 2570 m, 30 June 1973, M. Özter 2704 (holotype EGE; isotypes EGE, NGGB, ANK, HUB).

Bellevalia Lapeyr.
e**B. bayburtensis** Sefali & Yıldırım in Phytotaxa 441 (3): 286 (2020). [Yıldırım & Sefali, 2020]

**Type:** Turkey. Bayburt: Köpdağı silsilesi, Bahtlı Dağı, kırık taşlık ve çarşak alanlar, 2604 m, 40°02’ N, 40°30’ E, 01 June 2019, A.Sefali 433 (holotype: EGE 43190; isotypes: ANK, EGE 43191, NGGB).

e**B. guneriana** Tugay & Armağan in Bağbuhçe Bilim Dergisi 8 (3): 2 (2021). [Tugay, Armağan, & Ulukış, 2021]

**Type:** Turkey. Hatay: Belen, Amanos Dağları, Karlık Tepe, kırışçalı yamaçlar, Quercus coccifera kireçtaşlı yamaçlar, 900 m, 24.xiv.1957, P.H. Davis 27040 & Hedge (holotype / holotip: E00340644).

e**B. sasonii** Guner in Phytotaxa 394 (2): 127 (2019). [Fidan, 2019]

**Type:** Turkey. B8 Batman: Sason country Karameşe village road 1. km, 38°17’48.29”N, 41°19’53.97”E, forest clearance, 733 m, 11 April 2017, M. Fidan 3012 (holotype SUFAF; isotype VANF).

e**B. turcica** Pınar & Eroğlu in Biologia 74: 449 (2019). [Pınar & Eroğlu, 2019a]

**Type:** Turkey. C5 Karaman: Sarıveliler, above Hamidiye village, Quercus coccifera, 2604 m, 27 July 2015, H. Yıldırım 3487 (holotype EGE, isotypes EGE, NGGB, ANK, HUB).
**Fritillaria** Tourn. ex L.

*F. arusiana* Yıldırım & Tekşen in Phytotaxa 502 (2): 150 (2021). [Yıldırım & Tekşen, 2021]

**Type:** Turkey. Hatay: Iskenderun, Arsus, Haçahmetli Köyü’nün askerî radara çıkış yolu, Amanos dağları, zirve civan düzlik, çam ve meşe ağaçıkları, serpantin topraklar, 1540 m a.s.l., 23 April 2008, H. Yıldırım 1309 (holotype, EGE 43194; isotype, GAZI).

*F. gencensis* Yıld. & Kılıç & Demirpolat in Fl. Ist. Systematik Botanik Dergisi, 26(1): 2 (2019). [Yıldırımlı, Kılıç, & Demirpolat, 2019]

**Type:** B8 Bingöl, Genç ilçesi, Çevirme köyü, Şehittepe mevkisi, küçük kepez başı, 1650 m, 22.04.2019, Ş. Yıldırımlı 45138, O. Kılıç & A.Demirpolat (holo. Yıldırımlı Otluk’u; iso. EGE, GAZI, HUB, YO).

**Galanthus** L.

*G. bursanus* Zubov, Konca & A.P.Davis in Kew Bulletin 74:18 (2019). [Zubov, Konca, & Davis, 2019]

**Type:** Turkey. Bursa Province, Marmara Sea region, limestone rocky outcrops near Bursa, c. 500 m, fl. 26 Nov. 2016, Zubov & Konca s.n. (holotype KWHA).

**Muscaria** Mill.

*M. commutatum* Guss. in Fl. Sic. Prodr. 1:426, t. 180 f. 4 (1827).

**Type:** Turkey. B7 Tunceli, Nazimiye, Büyükçay (Hakis) köyü giriş, dere baço, karşı orman, 1500 m, 31.05.2015. Ş. Yıldırımlı 41190 & O. Kılıç (holo. Yıldırımlı Otluk’u; iso. EGE, GAZI, HUB).

**M. inundatum** Eker in Phytotaxa 487 (1): 102 (2019). [Eker, 2019a]

**Type:** Turkey. C5 Adana: Tufanbeyli, around Güzelim village, on streamside in openings of pine forest, 1436 m of elevation, 09 May 2018, I. Eker 12586 (holotype AIBU; isotypes AIBU, NGBB, HUB).

**M. inundatum** Yıldırım & Eker in Phytotaxa 484 (2): 182 (2021). [Eker & Yıldırım, 2021]

**Type:** Turkey. C6 Hatay: Antakya, Amanos Mountain, above Kiseçik Village, Yukarı Zorkun Upland, creek edges in pine forest openings, 1518 m a.s.l., 28 April 2020, I. Eker 12808 (holotype AIBU; isotypes AIBU, EGE).

**M. muglaensis** Eker, H. Duman & Yıldırım in Phytotaxa 475 (4): 268 (2020). [Eker, Duman, & Yıldırım, 2020]

**Type:** Turkey. C2 Muğla: Köyçeğiz, Sandras Mountain, Lake Kartal surroundings, on ophiolite rock cracks and serpentine soils, 1952 m of elevation, 08 June 2020, I. Eker 13030 (holotype AIBU; isotypes AIBU, EGE, GAZI).

**M. nazimiyensis** Yıld. & Kılıç in Fl. Ist. Systematik Botanik Dergisi, 26(1): 14 (2019). [Yıldırımlı & Kılıç, 2019c]

**Type:** B7 Tunceli, Nazimiye, Büyükçay (Hakis) köyü giriş, dere baço, karşı orman, 1500 m, 31.05.2015. Ş. Yıldırımlı 41190 & O. Kılıç (holo. Yıldırımlı Otluk’u; iso. HUB).

**M. pamiryigidii** Eker in Phytotaxa 408(4): 256 (2019). [Eker, 2019b]

**Type:** Turkey. A3 Bolu: Mudumu, Abant Mountains, around antenna tower, alpine and subalpine areas, meadow and stony places, 1756 m of elevation, 18 May 2012, I. Eker 2768 (holotype AIBU; isotypes AIBU, NGBB, HUB).

**M. pallens** (M.Bieb.) Fisch. in Cat. Jard. Gorenki, ed. 2: 9 (1812).

**Type:** Turkey. B9 Van: Gevaş, Deveboynu Yarımadası, göl kenarı, açık yamaçlar, 29 iv 2007, HY-1124 (EGE); Göründü-Altınsaç köyleri arası, 4. km, bozkır, 1680 m, 03 v 2017, M.Armağan 7250 & 7251 (AIBU); Göründü-İnkoy köyleri arası, 1700-1750 m, 03 v 1997, M.Koyuncu 11579 (AEF 25786); ibid., yamaçlar, 1750 m, 11 v 1997, M.Koyuncu 11622 (AEF 25787); Ağlı Köyü, 1730 m, 03 v 1997, M.Koyuncu 11579 & N.Demirkuş 5111 (AEF 25781); ibid., taşlı yamaçlar, 1700 m, 11 v 1997, M.Koyuncu (AEF 25774); Göründü-Altınsaç köyleri arası, Ağlı Köyü, yamaçlar, 1750 m, 19 iv 1998, N.Demirkuş (AEF 25092); ibid., 1750 m, 19 iv 1999, N.Demirkuş (AEF 25091); ibid., 1750 m, 19 iv 1998, N.Demirkuş (AEF 25093); Göründü-Altınsaç köyleri arası, step, yamaçlar, 1750 m, 06 v 2002, M.Koyuncu 14074 & N.Akgül (AEF 25811); ibid., Van Gölkölnün güneyi, yamaçlar, 1700 m, 18 iv 2004, M.Koyuncu 14074 (AEF 25650).

**M. sahtiahpinairei** Eroğlu, Pinar & Fidan in Nordic Journal of Botany 37 (11): 2 (2019). [Eroğlu, Pinar, & Fidan, 2019]

**Examined specimens:** Turkey. B9 Van: Gevaş, Deveboynu Yarımadası, göl kenarı, açık yamaçlar, 29 iv 2007, HY-1124 (EGE); Göründü-Altınsaç köyleri arası, 4. km, bozkır, 1680 m, 03 v 2017, M.Armağan 7250 & 7251 (AIBU); Göründü-İnkoy köyleri arası, 1700-1750 m, 03 v 1997, M.Koyuncu 11579 (AEF 25786); ibid., yamaçlar, 1750 m, 11 v 1997, M.Koyuncu 11622 (AEF 25787); Ağlı Köyü, 1730 m, 03 v 1997, M.Koyuncu 11579 & N.Demirkuş 5111 (AEF 25781); ibid., taşlı yamaçlar, 1700 m, 11 v 1997, M.Koyuncu (AEF 25774); Göründü-Altınsaç köyleri arası, Ağlı Köyü, yamaçlar, 1750 m, 19 iv 1998, N.Demirkuş (AEF 25092); ibid., 1750 m, 19 iv 1999, N.Demirkuş (AEF 25091); ibid., 1750 m, 19 iv 1998, N.Demirkuş (AEF 25093); Göründü-Altınsaç köyleri arası, step, yamaçlar, 1750 m, 06 v 2002, M.Koyuncu 14074 & N.Akgül (AEF 25811); ibid., Van Gölkölnün güneyi, yamaçlar, 1700 m, 18 iv 2004, M.Koyuncu 14074 (AEF 25650).

**M. sahtiahpinairei** Eroğlu, Pinar & Fidan in Nordic Journal of Botany 37 (11): 2 (2019). [Eroğlu, Pinar, & Fidan, 2019]

**Type:** Turkey. B6 Adana: Tufanbeyli, Demiroluk village, Bey Mountain-Kartal Mountain, steppe, stony slopes, 38°14′12″N, 36°02′55″E, 2025 m, a.s.l., 18 May 2015, H. Eroglu 1153 (holotype VAN; isotypes GAZI, ANK).

**M. savranii** Uysal & Doğu in Phytotaxa 402 (3): 157 (2019). [Doğu & Uysal, 2019]

**Type:** Turkey. B5 Kayseri: Kocasinan, Oymaçık Köyü üstleri, Jipsli yamaçlar, elev. 1150–1200 m, 26 April 2018, S. Doğu 3051 (Holo KNYA).
e**M. tauricum** S. Demirci, N. Özhatay & E. Kaya in Phytotaxa 399 (2): 112 (2019). [Demirci-Kayiran, Özhatay, & Kaya, 2019]

**Type:** Turkey. C4 Mersin: Tarsus-Çamlıyayla, 18 km of Çamlıyayla, wet rift valley, 1140 m of elevation, 14 April 2011, E. Kaya 1918 (holotype ISTE 94347).

**Ornithogalum L.**

e**O. gulnariensis** Demirci & Uysal in Kew Bulletin 75: 18 (2020). [Demirci-Kayıran, Özhatay, & Kaya, 2019]

**Type:** Turkey. C4 İçel, Mut-İçel, Dağ Pazarı-Kilise road, 2 – 3 km, near Çivi village, Pinus–Quercus openings, 36°44.8'74"N, 33°23.9'71"E, 860 m, 19 April 2013, T. Uysal 2840, O. Tugay&H. Demirelma (holotype: KNYA).

**O. malatyanum** Mutlu subsp. aricakense Behçet & Yapar in Nord J Bot 38(11)-e02837: 2 (2020). [Yapar & Behçet, 2020]

**Type:** Turkey. B8 Elazığ: Arıcak district, east of Karakaş village, rocky area, accumulated soil between the rocks, 1200 m a.s.l., 15 Jun 2019. Y.Yapar 3068. (holotype: Bingöl Univ. Biology Dept. Herbarium (BIN); isotypes: ANK, KNYA, BIN).

**O. plurifolium** Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(2): 11 (2019). [Yıldırımlı & Kılıç, 2019f].

**Type:** B7 Tunceli, Ovacık, Yılan dağı, Cevizlidere köyünden İt iyokuşu-Eşek meydanı-Dev boğazı, Tapik tepe-Deve boynu-Barasor deresi izleğiyle Karataş köyune, bozkır, 1550-2250 m, 19.06.2015, Ş. Yıldırımlı 41600 & Ö. Kılıç (holo. Yıldırımlı Otluk'u). (YO; iso. GAZI, YO).

**O. sancakense** Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(2): 24 (2019). [Yıldırımlı & Kılıç, 2019f].

**Type:** B8 Bingöl, Bingöl-Sancak arası, bayır, yamaç, meşelik (Quercus brandii), yamaçlar, çayırlık, 1550-1600 m, 04.05.2018, Ş. Yıldırımlı 44506 & O. Kılıç (holo. Yıldırımlı Oltuk'u iso. GAZI).

**Scilla L.**

e**S. hakkariensis** Firat & Yıldırım in Adansonia 42 (2): 90 (2020). [Firat & Yıldırım, 2020]

**Type:** Turkey. Hakkari: Şemdinli district, Gelyaşli region, on rock area and Crataegus bushes opening, 890 m, 37°4′45" N, 44°25′46" E, 7.iv.2012, M. Firat 28629 (holo., VANP; iso., EGE, HUB, VANP, and in the personal herbarium of the collector Herb. Fırat).

**ORCHIDACEAE**

**Ophrys L.**

e**O. bingoelensis** Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(2): 44 (2019). [Yıldırımlı & Kılıç, 2019j].

**Type:** B8 Bingöl, Sancak-Uğurova arası, güney kesimleri, meşe altı, nemli yerler, 1450-1500 m, 24.05.2019, O. Kılıç 8979 (holo. Yıldırımlı Otluk'u).

**Anacamptis L.**

*A. × parvifolia* (Chaub.) H. Kretzschmar, Eccarius & H.Dietr. in Orchid. Gen. Anacamptis, Orchis, Neotinea, ed. 2: 427 (2007). [Eker & Başaran, 2019]

**Examined specimen:** Turkey. A3 Bolu: Abant yolu, isık çayırıklar, 813 m, 14.vi.2015, Başaran 87 & Eker (AIBU).

**Orchis Tourn. ex L.**

e**O. bingoelensis** Yıld. & Kılıç in Ot Sistematik Botanik Dergisi, 26(2): 44 (2019). [Yıldırımlı & Kılıç, 2019j].

**Type:** B8 Bingöl, Kiğı, Karakoçan-Sancak yol ayrımından sonra y. 6 km, mezarlık yakını, yol kıyısı, yamaç, 1450 m, 24.05.2017, Ş. Yıldırımlı 43375 & O. Kılıç (holo. Yıldırımlı Oltuk'u iso. GAZI).

**Zeuxine Lindl.**

*Z. strateumatica* (L.) Schltr. in Bot. Jahrb. Syst. 45(3): 394 (1911). [Bozkurt, Öz, & Yıldırım, 2021]

**Examined specimen:** Muğla: Ortaca, Sangerme mahallesi, deniz kenarı, açık çayır alanlar ve kumullar, 5 m, 23 ii 2021, N.Bozkurt, A.Öz ve H.Yıldırım (EGE 43528).

Figure 3. Current data about Turkish flora.
CONCLUSION

The diversity of vegetation and richness of Turkey’s flora are legendary. Based on the data gathered from these recent studies, a new taxon has been added to the flora of Turkey every 4 days and 20 hours in recent years. Up to date, 10,460 species, 2,066 subspecies, 888 varieties, and 287 hybrids have been listed in Turkish flora (Figure 3). According to recent data, endemism is at 32% (Figure 4). As a result of native vascular plant species, a total of 4,319 endemics have been recorded within Turkey to date.

Turkey’s flora is rich in endemic taxa. However, the number and status of taxa change on a regular basis for a variety of reasons, including taxa described as new to science, species thought to be endemic to Turkey being discovered elsewhere, and the taxonomy of several groups still being debated. This list must be updated. Current information indicates that the numbers given here belong to December 2021. It is useful to update the numbers at certain times, and these numbers can change.

Peer-review: Externally peer-reviewed.

Informed Consent: Written consent was obtained from the participants.

Author Contributions: Conception/Design of Study- N.O., Ş.K., B.G.; Data Acquisition- N.O., Ş.K., B.G.; Data Analysis/Interpretation- N.O., Ş.K., B.G.; Drafting Manuscript- N.O., Ş.K., B.G.; Critical Revision of Manuscript- N.O., Ş.K., B.G.; Final Approval and Accountability- N.O., Ş.K., B.G.

Conflict of Interest: The authors have no conflict of interest to declare.

Acknowledgement: Many journals have been published online in recent years. Since it is impossible to follow the publications here and to access the full papers in some journals, many of our colleagues have made important contributions to our preparation of this list, and we would like to thank them here once again. We would like to thank Ahmet Aksoy, Ali Sinan, Barış Öz, Barış Özüdoğru, Bilge Tunçkol, Burçin Çingay, Ece Gökçe Çakır Dindar, Emre Çilden, Faruk Canız, Gülnür Ekşi Bona, Hasan Yıldırım, İsmail Eker, Kurtuluş Özgişi, Murat Koç, Mehmet Sağrıoğlu, Mehtap TekşenMustafa Keskin, and Yavuz Bağcı for kindly sending us a copy of their papers on new additional taxa to the Turkish flora.

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