

Check-List of the Genus *Colchicum* in the Flora of Turkey

Hasan AKAN

Harran University, Arts & Science Faculty, Biology Department, Osmanbey Campus, 63200 Şanlıurfa - TURKEY

İsmail EKER

Abant İzzet Baysal University, Arts & Science Faculty, Biology Department, Gölköy, Bolu - TURKEY

Received: 23.09.2004

Accepted: 24.01.2005

Abstract: A check-list of the genus *Colchicum* L. in the Flora Turkey is presented, with 36 taxa. A list of taxonomical changes that have occurred since the publication of the Flora of Turkey suppl. II is given. Twenty-seven of them are autumn-flowering species (28 taxa), whereas 8 of them are early-spring species. Thirty-five species (36 taxa) are presented, of which 15 are endemic to Turkey.

Key Words: *Colchicum*, Check-list, Liliaceae, Turkey

Türkiye Florası'nda *Colchicum* Cinsinin Tür Listesi

Özet: Bu çalışmada Türkiye'deki *Colchicum* L. cinsinin tür listesi ve Türkiye Florası'nın 2. ek cildinin yayımlanmasından bu yana görülen taksonomik değişikliklere yer verilmiştir. Bu çalışma sonucu, 27 türün (28 takson) sonbaharda çiçeklendiği, 8 türün ise erken ilkbaharda çiçek açtığı tespit edilmiştir. Cinsin toplam 35 türden (36 takson) oluştuğu ve bunların 15 tanesinin Türkiye için endemik olduğu saptanmıştır.

Anahtar Sözcükler: *Colchicum*, Check-list, Liliaceae, Türkiye

Introduction

For the treatment of the genus *Colchicum* L. in the Flora of Turkey, Brickell (1984) considered 22 species (Brickell did not include the genus *Merendera* Ram. in *Colchicum*, as Persson (2001b) did, and added 5 species under the heading "species imperfectly known or doubtfully recorded". Later, Brickell (1998) described a new species from Turkey, namely *Colchicum davisii* C.D.Brickell. Since then, Persson (1999a, 1999b) studied the genus *Colchicum* in Turkey for some years and travelled across all of the country, mainly west of the Anatolian Diagonal (Davis, 1971). In particular, Turkish autumn-flowering species of *Colchicum* with large, broad hysteranthous leaves were taxonomically and morphologically revised and 10 new endemic species (*Colchicum munzurensis* K.M.Perss., *C. minutum* K.M.Perss., *C. sanguicolle* K.M.Perss., *C. micaceum* K.M.Perss., *C. heldreichii* K.M.Perss., *C. inundatum* K.M.Perss., *C. paschei* K.M.Perss., *C. dolichantherum* K.M.Perss., *C. imperatoris-friderici* Siehe ex K.M.Perss.,

and *C. leptanthum* K.M.Perss.) were described by Persson (1999a, 1999b, 1999c, 2001b). Moreover, Persson presented 2 new records, *C. persicum* Baker and *C. polyphyllum* Boiss. & Heldr., in her treatment of the Flora of Turkey, suppl. II (Persson, 2001a).

In the treatment by Persson (2001a) for the Flora of Turkey, suppl. II, since many Turkish species have been the subject of frequent misinterpretations and erroneous determinations, the Turkish species were revised and new combinations and changes were given. The findings of these studies (Persson, 1999a, 1999b, 2001a, 2001b) can be summarised for some taxa as follows: *C. psaridis* Heldr. ex Hal. is replaced by *C. minutum* K.M.Perss., *C. falcifolium* Stapf is replaced by *C. serpentinum* Woron. ex Miscz., *C. troodii* Kotschy is replaced by *C. decaisnei* Boiss. and *C. bornmuelleri* Freyn is included in *C. speciosum* Steven; on the other hand, *C. lingulatum* Boiss. & Spruner is replaced by 3 taxa: *C. lingulatum* Boiss. & Spruner subsp. *rigescens* K.M.Perss., *C. chalconicum* Azn. subsp. *chalconicum* and subsp. *punctatum* K.M.Perss.

During floristic investigations, the authors collected some interesting *Liliaceae* specimens from Şanlıurfa, south-east Turkey, 50 km from the border with Syria. Among them there was a specimen which could not be identified using the description key in the Flora of Turkey (Brickell 1984, Persson 2001a). A fairly large portion of the genus *Colchicum* in Turkey has recently been revised by Persson (1999a, 1999b) but the specimens were not included in the revisions. Eventually, using the accounts in the Flora Palaestina (Feinbrun-Dothan, 1986) Flora Iranica (Persson, 1992), Flora of Syria (Post & Dinsmore, 1933) and Flora of Iraq (Wendelbo, 1985), the specimens were identified as *Colchicum crocifolium* Boiss. This was a new record for the Flora of Turkey (Akan & Eker, 2004, in press). After this the total number of *Colchicum* taxa increased to 36 in the Flora of Turkey. The plant list is given alphabetically.

Check-list of the genus *Colchicum* in the Flora of Turkey

Colchicum balansae Planchon in Ann. Sci. Nat. Ser. 4, 4:145 (1855).

Syn: *C. candidum* Schott & Kotschy ex Boiss., Fl. Or. 5:159 (1882).

Dist. Endemic to Turkey.

Colchicum baytopiorum C.D.Brickell in Notes R.B.G. Edinb. 41: 49 (1983).

Dist. Endemic to Turkey.

Colchicum bivonae Guss. in Adnot. Cat. Pl. Bocc. 5 (1821).

Syn: *C. latifolium* Sm., Fl. Graeca 4:43, t. 350 (1823) nom. illegit.

C. bowlesianum B.L.Burtt in Kew Bull. 1950:433 (1951).

C. sibthorpii sensu B.L.Burtt, op. Cit.431 (1951) p.p. quoad flores.

Dist. Sicily, Italy, Corsica, Sardinia, Yugoslavia, Greece, Bulgaria, Turkey.

Colchicum boissieri Orph. In Atti Congr. Bot. Firenze 1874: 29 (nomen), 30-31 (descr.) (1876).

Syn: *C. procurrens* Baker in Gard. Chron. ser. 3, 7: 192 (1890).

Dist. S. Greece, Turkey.

Colchicum burttii Meikle in Bot. Mag. 181. n.s.t. 735 (1977).

Dist. Chios, Turkey.

Colchicum chalcedonicum Azn. in Bull. Soc. Bot. Fr. 44:174 (1897).

subsp. **chalcedonicum**.

Syn. *C. turcicum* Janka var. *chalcedonicum* (Azn.) Stefanov in Sborn. Balg. Akad. Nauk Sofiya 22:77 (1926).

Dist. Greece, Turkey.

subsp. **punctatum** K.M.Perss. in Candollea 53:405 (1998).

Dist. Endemic subspecies to Turkey.

Colchicum cilicicum (Boiss.) Dammer in Gard. Chron. Ser. 3, 23:34 (1898).

Syn: *C. byzantinum* Ker-Gawler var. *cilicicum* Boiss., Fl. Or. 5:160 (1882).

C. decaisnei sensu Lynch in Gard. Chron. Ser. 3, 60:204, f. 79 (1916) non Boiss. (1884).

C. speciosum sensu Stef., Monogr. *Colchicum* 80 (1926) p.p. quoad plants cilicicas non steven (1829).

C. byzantinum auct. non Ker-Gawler in Bot. Mag. 25: t. 1028 (1808).

Dist. Syria, Turkey.

Colchicum crocifolium Boiss., Diagn. Pl. Or. Nov. Ser. 1, 5:67 (1844).

Syn.: *C. montanum* sensu Baker in Journ. Linn. Soc. Bot. 17: 433 (1879) p.p. non L. (1753). *C. crocifolium* var. *lasiophyllum* et var. *leiophyllum* Bornm. in Beih. Bot. Centrbl. 24, Abt. 2:98 (1908).

C. crocifolium var. *stenanthum* (Bornm.) Stefanov, Monogr. *Colchicum*: 28 (1826), var. "*stenophyllum*" sec. Feinbrun in Pal. Journ. Bot., Jer. Ser. 6:76 (1953).

Dist. N.E. Syria, W. Iran, Iraq, S. Turkey.

Colchicum davisii C.D.Brickell in New Plantsman 5:15 (1998).

Syn. *C. speciosum* sensu Reich.f. in Ark. Bot. 5:78 (1960) non Steven (1829).

Dist. Endemic to Turkey.

Colchicum decaisnei Boiss., Fl. Or. 5:157 (1882).

Syn: *C. brevistylum* Feinbrun in Eig, Zohary & Feinbrun, Anal. Fl. Palest. 355, 411 *nom. nud.*

C. laetum auct., non Steven (1829)

C. troodi sensu C.D.Brickell in Davis (ed.), Fl. Turkey 8:342 (1984), non Kotschy (1862).

Dist. W. Syria, Lebanon, N. Israel, Turkey.

Colchicum dolichantherum K.M.Perss. in Edinb. J. Bot. 56:126 (1999).

Syn. *C. balansae* var. *macrophyllum* Siehe ex Hayek in Ann. Naturhist. Mus. Wien 28:183 (1914), non *C. macrophyllum* B.L. Burttt (1951).

Dist. N. Syria, Turkey.

Colchicum heldreichii K.M.Perss. in Edinb. J. Bot. 56:98 (1999).

Dist. Endemic to Turkey.

Colchicum imperatoris-friderici Siehe ex K.M.Perss. in Edinb. J. Bot. 56:129 (1999).

Dist. Endemic to Turkey.

Colchicum inundatum K.M.Perss. in Edinb. J. Bot. 56:99 (1999).

Dist. Endemic to Turkey.

Colchicum kotschyi Boiss., Diagn. ser. 1 (13):38 (1853)

Syn: *C. candidum* Schott & Kotschy ex Boiss. var. *hirtiflorum* Boiss., Fl. Or. 5:160 (1882).

Dist. Iraq, Iran, Turkey.

Colchicum leptanthum K.M.Perss. in Bot. J. Linn. Soc. 135:85-88 (2001).

Dist. Endemic to Turkey.

Colchicum lingulatum Boiss. & Spruner in Boiss., Diagn.

subsp. *rigescens* K.M. Perss. in Candollea 53:411 (1998).

Dist. Endemic subspecies to Turkey.

Colchicum macrophyllum B.L.Burttt in Kew Bull. 5: 433 (1951).

Syn: *C. latifolium* Sm. var. *longistylum* Pampanini, Nuovo Gior. Bot. Ital. Ser. 2, 33:24 (1926).

C. latifolium auct. non Sm. (1823).

Dist. Ervia, Crete, East Aegean Islands, Turkey.

Colchicum micaceum K.M.Perss. in Edinb. J. Bot. 56:(1), 85-102 (1999).

Dist. Endemic to Turkey.

Colchicum micranthum Boiss., Fl. Or. 5:162 (1882).

Dist. Endemic to Turkey.

Colchicum minutum K.M.Perss. in Edinb. J. Bot. 56:90 (1999).

Syn: *C. hiemale* Siehe in Sched. ad Fl. Orient. No: 87, *nom. nud.* non Freyn (1897).

C. issicum Siehe 1.c. No. 97, *nom. nud.*

C. psaridis sensu Brickell in Davis (ed.), Fl. Turk. 8:335 (1984), non Heldr. ex Hal. (1904).

Dist. Endemic to Turkey.

Colchicum munzurense K.M.Perss. in Edinb. J. Bot. 56:86 (1999).

Dist. Endemic to Turkey.

Colchicum paschei K.M.Perss. in Edinb. J. Bot. 56:110 (1999).

Dist. Endemic to Turkey.

Colchicum persicum Baker in Linn. Soc. Bot., 17:430 (1879).

Syn. *C. haussknechtii* Boiss., Fl. Or. 5:157 (1882).

Syn. *C. halophilum* Freyn & Bornm. in Freyn, Bull. Herb. Boiss. ser. 1, 5:800 (1897).

Syn. *C. kotschyi* sensu Stefanov, Monogr. *Colchicum*: 65 (1926), p.p., non Boiss. (1853).

Syn. *C. turcicum* sensu Nábélek, Iter Turc.-pers. 4:30 (1929), non Janka (1873).

Dist. Lebanon, Syria, N.E. Iraq, Iran, Turkey.

Colchicum polyphyllum Boiss. & Heldr. in Boiss., Diagn. ser. 2, 4:121 (1859).

Syn. *C. stevenii* sensu Boiss., Fl. Or. 5:165 (1882), et Stefanov, Monogr. *Colchicum*: 57 (1926), p.p. quoad pl. Cilic., non Kunth (1843).

C. decaisnei var. *cilicicum* Siehe in Sched. ad Fl. orient. No. 88, *nom. nud.*

C. cilicicum ("cilicum", probable misprint) Hayek & Siehe in Ann. Naturhist. Mus. Wien 28: 182 (1914), *nom. illeg.*, non Dammer (1898).

Dist. Syria, Turkey.

Colchicum pusillum Sieber in Flora 5(1): 248 (1822).

Syn: *C. montanum* L. var. *pusillum* (Sieber) Fiori, Fl. Anal. Ital. 1:177 (1896).

Dist. Crete, Cyclades, East Aegean Islands, Cyprus.

Colchicum sanguicolle K.M.Perss. in Edinb. J. Bot. 56:92 (1999).

Dist. Endemic to Turkey.

Colchicum serpentinum Woron. ex Misch. Fl. Cauc. Crit. 2:114 (1912).

Syn: *C. tauri* Siehe ex Stef. Monogr. Colchicum 32 (1926).

Syn: *C. hirsutum* Stef., op. cit. 34 (1926).

Dist. SW Georgia, Turkey.

Colchicum speciosum Steven in Nouv. Mèm. Soc. Imp. Mosc. 1:265 (1829).

Syn: *C. bornmuelleri* Freyn in Ber. Deutsch. Bot. Ges. 7:319 (1889)

C. giganteum hort. Leichtlin ex S.Arnot in Gard. Chron. Ser. 3, 32:435 (1902).

C. speciosum var. *lenkoranicum* Misch., Fl. Cauc. Crit. 2:108 (1912).

Dist. Caucasus, N. Iran, Turkey.

Colchicum stevenii Kunth, Enum. Pl. 4: 144 (1843).

Dist. Cyprus, W. Syria, Greece, Turkey.

Colchicum szovitsii Fisch. & C.A.Mey. in Ind. Sem. Horti Petrop. 1:24 (1835).

Syn: *C. szovitsii* Fisch. & C.A.Mey. var. *nivale* Boiss. & Huet in Boiss. Diagn. ser. 2 (4): 122 (1859).

C. bifolium Freyn & Sint. in Freyn in Bull. Herb. Boiss. 4:198 (1896).

C. hydrophilum Siehe in Gard. Chron. Ser. 3, 29: 102, f.43 (1901).

C. szovitsii Fisch. & C.A.Mey. var. *bifolium* (Freyn & Sint.) Bordz. in Trudy Tiflissk. Bot. Inst. 18:489 (1919).

C. armenum B.Fedtsch. in Not. Syst. (Leningrad) 1:4 (1920).

C. nivale Boiss. & Huet ex Stef., Monogr. Colchicum 35 (1926)

C. acutifolium Siehe in sched.

Dist. Caucasus, Iran, Iraq, Turkey.

Colchicum triphyllum G.Kunze in Flora 29 (2):755 (1846).

Syn: *C. bulbocodioides* M.Bieb., Fl. Taur.-Cauc. 1:293 (1808) non Brot. (1844).

C. biebersteinii Rouy in Bull. Soc. Bot. Fr. 52:64 (1906) nom. illegit.

C. catacuzenium Heldr. ex Stef., Monogr. Colchicum 38 (1926).

C. ancyrense B.L.Burt in Notes R.B. G. Edinb. 21: 298 (1954).

C. montanum auct. non L. (1753).

Dist. N.W. Africa, C. & S. Spain, Greece to Russia, Turkey.

Colchicum turcicum Janka in Öst. Bot. Zetschr. 23:242 (1873).

Dist. Bulgaria, N. Greece, Turkey.

Colchicum umbrosum Steven in Nouv. Mèm. Soc. Nat. Mosc. 7:268, t.14 (1829).

Syn: *C. arenarium* Waldst. & Kit. var. *umbrosum* Ker-Gawler in Bot. Reg. 7: t.541 (1821).

Dist. Caucasus, Crimea, Turkey.

Colchicum variegatum L. Sp. Pl. 342 (1753).

Syn: *C. parkinsonii* Hooker in Bot. Mag. 100:t.6090 (1874).

C. variegatum L. var. *desii* Pamp. in Nuov. Giorn. Bot. Ital. 33:21 (1926).

C. agrippinum auct. non Hort. ex Baker in J. Linn. Soc. (Bot.) 17: 425 (1879).

Dist. Greece, Cyclades, Turkey.

Discussion

The endemism rate (c. 35%) within *Colchicum* (incl. *Merendera* Ram.) in Turkey indicates that this region is a major centre of diversity and speciation (Persson, 1993b, 1999a, 1999b). About 60% of the species are autumn-flowering with hysteranthous leaves. The confusion and taxonomic difficulties within this group are reflected both in the literature and herbaria, and also in the fact that very few new species were described before the end of the twentieth century despite rather extensive collecting. In particular, many Turkish species with large broad leaves have been the subject of frequent misinterpretations and erroneous determinations.

In conclusion, the check-list of the genus *Colchicum* is given with all changes, synonyms and related revisions of the genus. Taxonomical changes that have occurred since the publication of the Flora of Turkey suppl. II are included.

References

- Akan H & Eker İ (2005). A new record for Turkey: *Colchicum crocifolium* Boiss., with a contribution to the taxonomy of the species, *Belgian J Bot* (in press).
- Brickell CD (1984). *Colchicum* L. In: Davis PH (ed.) *Flora of Turkey and the East Aegean Islands* 8: 329-351. Edinburgh: Edinburgh University Press.
- Brickell CD (1998). *Colchicum davisii* C.D. Brickell; a new species from Turkey. *The New Plantsman* 5 (1): 15-22.
- Davis PH (1971). Distribution patterns in Anatolia with particular reference to endemism. In: Davis PH, Harper PC & Hedge IC (eds) *Plant life of South West Asia*, pp. 15-27. Aberdeen: The Botanical Society of Edinburgh.
- Feinbrun-Dothan N (1986). *Flora Palaestina* 4: 26-32. Jerusalem: The Israel Academy of Sciences and Humanities.
- Persson K (1992). Liliaceae III. In: Rechinger KH (ed.) *Flora Iranica* 170: 1-40. Graz: Akademische Druck-u-Verlagsanstalt.
- Persson K (1993a). *Colchicum feinbruniae* sp. nov. and allied species in the Middle East. *Israel J Bot* 41: 75-86.
- Persson K (1993b). Reproductive strategies and evolution in *Colchicum*. *Proc. 5th OPTIMA Meeting*, pp. 394-414. İstanbul.
- Persson K (1999a). The Genus *Colchicum* in Turkey, I. New species. *Edinb J Bot* 56 (1): 85-102.
- Persson K (1999b). The Genus *Colchicum* in Turkey, II. Revision of The Large-Leaved Autumnal Species. *Edinb J Bot* 56 (1): 103-142.
- Persson K (1999c). New and revised species of *Colchicum* (Colchicaceae) from the Balkan Peninsula. *Pl Syst Evol* 217: 55-80.
- Persson K (2001a). *Colchicum* L. in A. Güner et al., *Flora of Turkey and the East Aegean Islands*, Vol. 11 (supplement 2): 246-265, Edinburgh University Press; Edinburgh.
- Persson K (2001b). A new soboliferous species of *Colchicum* in Turkey. *Bot J Linn Soc* 135: 85-88.
- Post GE & Dinsmore JE (1933). *Flora of Syria. Palestine and Sinai*, 2nd ed., 2: 611-615, American Pres; Beirut.
- Wendelbo P (1985). *Colchicum* L. In: Townsend CC & Guest E (eds) *Flora of Iraq* 8: 44-53. Baghdad: Ministry of Agriculture and Agrarian Reform, Iraq.

Acknowledgements

We would like to thank Prof. Dr. Mehmet Koyuncu, Dr. Karin Persson and Dr Lyton Musselmann for providing literature references and their useful discussions, to Dr. Vicki Noble, Curator of the BM herbarium, for the image type specimens, and to TÜBİTAK (TBAG-2099) for its financial support.