

CONTRIBUTIONS TO THE FLORA OF TURKEY

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SUMMARY: *in this paper, two new taxa (Morina persica L. var. decussatifolia S. Erik et N. Demirkuş var. nov./Morinaceae and Geranium platypetalum Fisch. et Mey var. albipetalum S. Erik et N. Demirkuş var. nov./Geraniaceae) have been described, one taxon (Galanthus caucasicus (Baker) Grossh./Amaryllidaceae) has been added to the Flora and 17 interesting species belonging to different families and their additional morphological features have been given.*

TÜRKİYE FLORASINA KATKILAR

ÖZET: *Bu makalede iki yeni takson (Morina persica L. var. decussatifolia S. Erik et N. Demirkuş var. nov./Morinaceae ve Geranium platypetalum Fisch. et Mey var. albipetalum S. Erik et N. Demirkuş var. nov./Geraniaceae) tanımlanmakta, Türkiye Florasına yeni bir takson (Galanthus caucasicus (Baker) Grossh./Amaryllidaceae) eklenmekte ve çeşitli familyalara ait 17 ilginç türün ek morfolojik özellikleri verilmektedir.*

INTRODUCTION

The specimens presented in this article were collected during the floristic studies carried out mainly in North Eastern Anatolian part of Turkey, provinces of Kars, Erzurum, Artvin and Rize. At the end of the research, two taxa as new variety and one taxon as addition to the Flora were discovered. In addition to these results, 17 interesting species belonging to different families which are generally collected second time after the type material, and the additional complementary knowledge of these 17 species in accordance with the descriptions in the Turkish Flora (1) were also mentioned in order to be helpfull to any botanist who deal with any of these

taxa in the future. New records and new taxa from these areas had been previously published (2-4). Many other contributions additional to the Turkish Flora, include a lot of taxa collected from these areas (5—15). These publications reflect the floristic richness of the region.

In the text, while describing the interesting specimens, the characters that we gave in parenthesis refer to those taken from the Flora or to those belonging to the species that we have compare with.

MORINACEAE

Morina persica L. var. decussatifolia S. Erik et N. Demirkuş var. nov. (Fig. 1)

A varietate typica bracteis et foliis decussatis (nunqua verticillatis) differt.

Geliş Tarihi: 9/8/1 985

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Type: (Turkey). A8 Erzurum: Tortum, Bar deresinden Tortum'a doğru, vadi yamaçları, 2200 m, 9.8.1981, Demirkuş 1245 (Holo HUB !).

A8 Erzurum: Tortum, Tortum Gölü, 5 km W, pebbly steppe, 1600 m, 29.7.1973, Özyurt et al. ATA 1961 !).

This new variety differs from *M. persica* L. by its decussate, not whorled leaves and bracts. The type had been collected from the other bank of the same valley, from a separate population.

The taxonomic status of this new variety had been decided after correspondance with V.A. Matthews who prepared the account of the genus for the Flora. Different Floras (1, 16, 17) describe the genus as having verticillate characters. Thus, a new character had been added to the description.

GERANIACEAE

Geranium platypetalum Fisch. et Mey. var. *albipetalum* S. Erik et N. Demirkuş var. nov. (Fig. 2)

A varietate typica petalis albis et glandulis flavis differt.

Type: (Turkey). A8/9 Artvin: Kaçkal Dağı, Cehennem Deresi, 3000 m, 13.8. 1984, N. Demirkuş 2635. (Holo HUB !).

Close to *G. platypetalum* but different with its white, drying pink petals, not blue and its yellow glands, not purple, on peduncle and pedicel.

AMARYLLIDACEAE

Galanthus caucasicus (Baker) Grossh. Fl. Kavk. 1:224(1962). (Fig. 3)

Turkey. A8 Rize: Çamlıhemşin, 800 m, Alnus glutinosa forest, mixed forest and

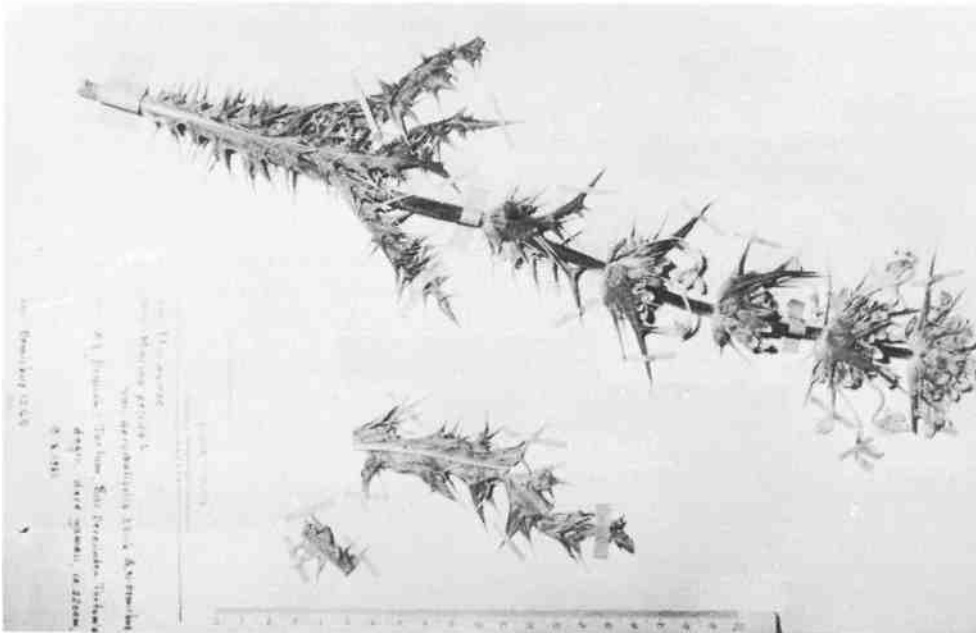


Figure 1. *Morina persica* L. var. *decussatifolia* S. Erik et N. Demirkuş var.

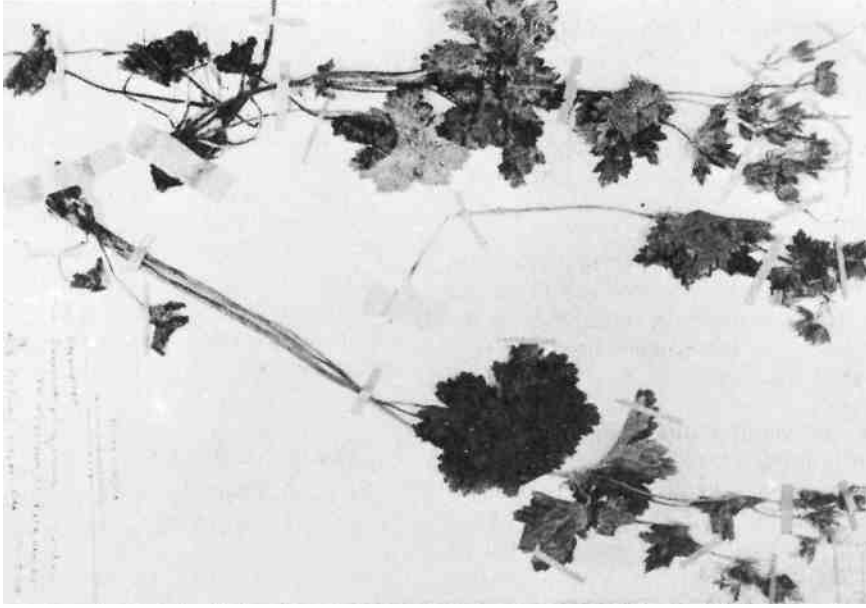


Figure 2. *Geranium platypetalum* Fish, et Mey. var. *albipetalum* S. Erik et N. Demirkus var. nov.

meadows. A. Güner 4630 ! Çamlıhemşin, Şenyuva village, 400 m, wet rocky places, 27.3.1983, mixed forest, meadows, A. Güner 4627 ! İkizdere, Ilıca village, 750 m, forest and meadows, 26.3.1983, A. Güner 4589 !.

Very close to *G. elwesii* but different with its inner tepals green patched only at apex. In 8th volume of the Flora this species has been cited as doubtful record, as it was lying on a Grossheim's map and no material had been seen. Thus, one more *Galanthus* species has been added to Turkish Flora and the presence of the species in Turkey has been confirmed also.

Interesting species:

RANUNCULACEAE

Delpinium flexuosum Bieb. (1:111)

A9 Artvin: Ardanuç, 40 km before Kutul Yaylası, N. slopes, 1950 m, 29.7.

1982, Demirkus 1651 ! Euxine element. A second collection from locality close to Davis' collection.

D. buschianum Grossh. (1:111—113)

A9 Kars: Çıldır, Akkiraz village, meadows, 1600-2100 m, 6.8.1982, Demirkus 1863 !.

A specimen differing by having stem 12 (many), flowers 25-30 cm (20-25 cm); laeves distinctly hairy (glabrescent).

Ranunculus flammula L. (1:191)

A9 Kars: Göle, Kanlıyazı village, meadows, 2000 m, 7.7.1981, Demirkus 1002 !.

CRUCIFERAE/BRASSICAE

Aethionema diastrophis Bunge (1:327)

A9 Erzurum: Oltu, Eskidutlu village, to the top of Dutlu Dağı, 2200-2500 m, 19.7.1982, Demirkus 1425 !.

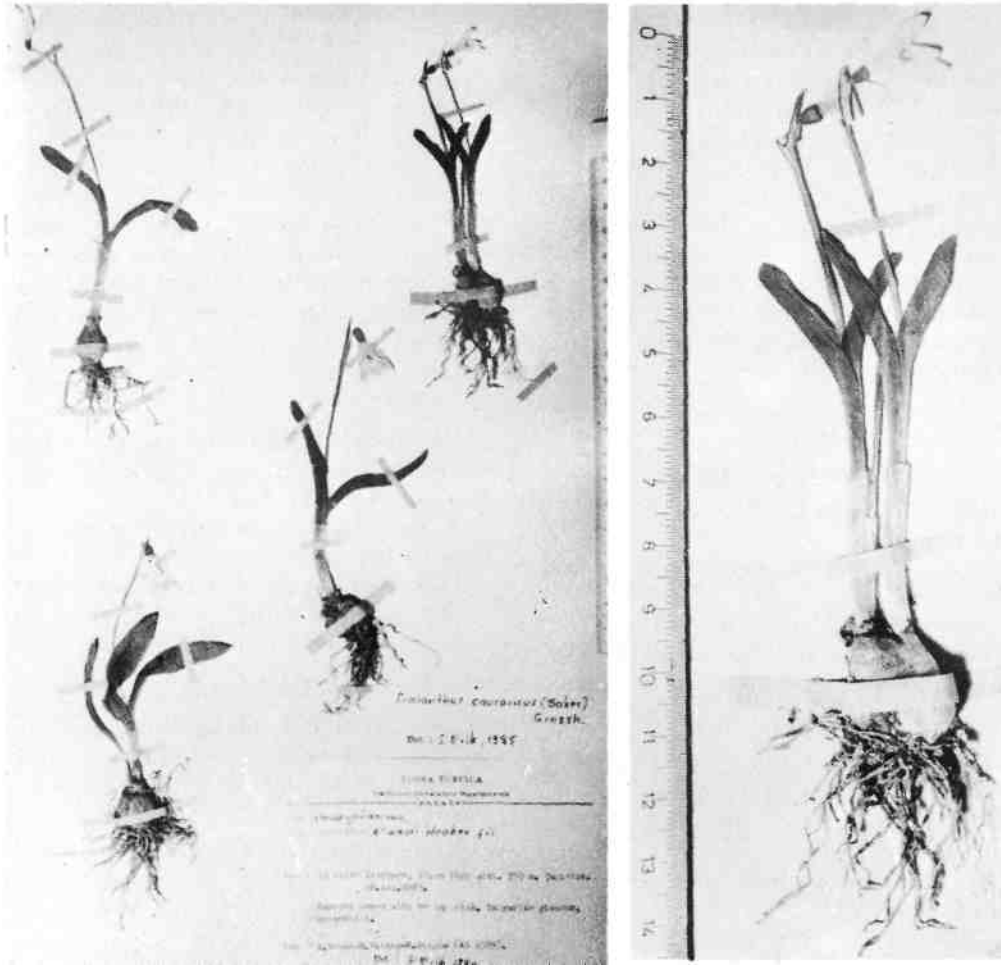


Figure 3. *Galanthus caucasicus* (Baker) Grossh.

The record in the Flora is based on a Grossheim's map.

LINACEAE

Linum ciliatum Hayek (11:433)

C5 Konya: Ereğli, Aydos Dağı, between Berendi and Kiraman villages, calcareous slopes, steppe, 1500 m, 28.6.1976, Erik 1753 ! Endemic.

A second collection after Type material dated 1912.

COMPOSITAE/ASTERACEAE

Doronicum macrolepis Freyn et Sint. (V:142)

A9 Kars: Ardahan, between Bülbülan and Kutul Yaylası, pastures, along the road, 13.7.1981, Demirkuş 1105 ! Endemic, Euxine element.

A second collection after Type specimen collected from A7 Gümüşhane in 1894.

Senecio pandurifolius C. Koch (V:155)

A8 Artvin: Yusufeli, from Kapreşet place to the top of Ziyaret Dağı, 1800-2400 m, 17.7.1982, Demirkuş 1575 !.

A second collection having some variations from A8: Terminal lobe of basal leaves 4.5—9.5 cm wide (4.5—7.5 cm), rounded to truncate at base (cordate at base).

Additional characters that differ it from *S. lorentii*: all mature achenes glabrous, in dry materials apex of phyllaries glabrous to hairy not floccose.

S. taraxacifolius (Bieb.) DC.**var. taraxacifolius** (V:155)

A9 Artvin: Ardanuç, 40 km to Kutul Yaylası, N. slopes, 1950 m, 29.7.1981 Demirkuş 1620 !.

A third collection outside from A8 and B8.

Capitula 1-2.4 cm broad (2.5-3.5 cm); ligules up to 21 mm (at most 12 mm); pappus up to 9.5 mm (6 mm).

C. hedgeri Wagenitz (V:567)

A9 Erzurum: Oltu, from Eskidutlu village to the top of Dutlu Dağı, 1950-2200 m, 19.7.1982, Demirkuş 1349 !. Ir. Tur. element.

A second collection apart from the type material.

involucre 12-17 x 15-18 mm (16-18 x 12—15 mm); stem 7-19 cm (15—25 cm). It seems that the achenes in our specimen shows an intermediate form between *C. dealbata* and *C. hypoleuca*, with oblong-lanceolate shape and laterally curved base.

.Salvifolius Boiss. (V:160)

A9 Artvin: Ardanuç, 40 km to Kutul Yaylası, N. slopes, 1950 m, 29.7.1981, Demirkuş 1643 !.

A second collection after from A8. Endemic, Euxine element.

Inflorescence up to 4—capitulate, phyllaries 6—8 mm, apex white ciliate, achenes c. 4.5 mm, pappus c. 6 mm.

Tanacetum eginense (Hausskn. ex Bomm.) Grierson (V:279)

A9 Erzurum: Oltu, Eskidutlu village, S. slopes, 1950 m, 19.7.1982, Demirkuş 1347 !.

A second square after B7. Ir. Tur. element.

Basal leaves up to 10 pairs of lateral segments (4—8 pairs); all phyllaries with dark brown scarious margins (particularly inner ones); ligules narrower, 3—4 mm wide (4-5 mm).

Centaurea anthemifolia Hub.—Mor.

(V:495.)

C5 Konya: Ereğli, Aydos Dağı, Deli-mahmutlu village, rocky serpentine slopes, 1600 m, 14.7.1977, Erik 2535 !.

A second collection after Type material from a different province.

Leaves with greenish glands, leaflets up to 2.3 mm broad (0.5—1 mm); involucre 9-12x 4.5-6 mm (8-9x 3.5 mm).

C. dealbata Willd. (V:556)

A9 Kars: Posof, between Binbaşiem-in-bey and Yurtbeyler villages, pastures along the road, 1500-1900 m, 5.8.1982, Demirkuş 1813 !.

A second collection in Turkey from the same square.

Involucre 17x 23 mm (21 x 20 mm), cilia 2—3 mm (3 3.5 mm), central part of appendages 2—3 mm (3—3.5 mm).

Additional differences from *C. hypoleuca* Central part of appendage brown with brownish cilia (appendage blackish, cilia whitish), pappus 1 1.8 mm (1—1.3 mm), achene 5—6 mm (c. 5 mm), terminal leaf segment entire (mostly dentate).

The taxonomic status of *C. dealbata* seems to be doubtful in Turkey.

C. pulcherrima Willd. var. *frycinii***(Sint.) Wagenitz (V:568)**

A8 Erzurum: Tortum, from Tuzla to Tortum, Bar stream, 9.8.1981, Demirkuş

1235 ! Artvin: Yusufeli, from Kapreşet village to the top of Ziyaret Dağı, 1800-2400 m, 27.7.1982, Demirkuş 1569 !.

Endemic. Second collection after type material from different province.

BORAGINACEAE

Myosotis ramosissima **Rochel ex Schultes** (Vl:269) subsp. *uncata* (Boiss. et Bal.) Grau.

C5 Konya: Ereğli, Aydos Dağı, İvriz, Subaşı place, marble rocks, 1600 m, 15.5. 1977, Erik 1812 !.

A second collection after type specimen.

Leaves up to 25 x 7 mm (40 x 10 mm), pedicels 0.5-3 mm (3-5 mm).

M. discolor **Pers.** (VI:270)

A8 Artvin: Yusufeli, from Kapreşet village to the top of Ziyaret Dağı, 1800— 2400 m, 27.7.1982, Demirkuş 1562 !.

Eu.—Sib. element. A distant record besides A2 and A3. Plant biennial (annual), corolla pink (pale yellow), calyx teeth antrorsely, tube retrorsely adpressed hairy (calyx with patent hooked and antrorsely adpressed hairy).

POLEMONIACEAE

Polemonium caeruleum **L.** (VI:197)

A9 Kars: Göle, Balçesme meadows, 2400 m, 16.8.1984, Demirkuş 2705 !.

A second collection from Turkey, and a new square record.

Inflorescence and upper part of the stem densely short glandular hairy, other parts glabrous or subglabrous. Capsule longer, up to 12 mm, seeds narrowly winged.

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