

Interesting Distribution of Some Plants in Turkey

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Abstract: The distributions of *Nympha alba* L. and *Oenanthe aquatica* (L.) Poiret, aquatic species in any newly given records, in east Turkey (in the eastern part of C6 square) are recorded first time. The distribution of *Hyalopoa pontica* (Bal.) Tzvelev (Euxin element) in Süphan Mount is interesting because it is known only around Rize (A8 square). The dissemination of *Puccinellia bulbosa* (Grossh.) Grossh. subsp. *caesarea* Kit Tan is a taxon known in the salt steppe around Kayseri and *Cephalaria anatolica* Schchian is a taxon known in a limited area of Erzurum. 37 taxa for B9 square and 7 taxa for B7 square total 44 taxa have been presented as new record. 9 of the new records for B9 – B7 squares are Irano-Turanian phytogeographic region elements, 3 of them are Euro-Siberian phytogeographic region elements, 3 of them are Euxine element and 1 of them are Mediterranean phytogeographic region elements. 11 of the new records are endemic.

Key Words: Distribution, new square records, flora of Turkey.

Bazı Bitkilerin Türkiye’de İlginç Yayılışları

Özet: *Nympha alba* L. ve *Oenanthe aquatica* (L.) Poiret sucul türleri Türkiye’nin doğusundan (C6 karesinin doğusundaki kısımlar) ilk defa kaydedilmiştir. Öksin elementi olan ve Türkiye’de sadece Rize çevresinden (A8) bilinen *Hyalopoa pontica* (Ball.) Tzvelev’in Süphan dağındaki yayılışı ilginçtir. Endemik taksonlardan *Puccinellia bulbosa* (Grossh.) Grossh. subsp. *caesarea* Kit Tan Kayseri çevresindeki (B5) tuzcul steplerde, *Cephalaria anatolica* Schchian Erzurum çevresinde (A8) sınırlı bir alanda yayılışı bilinen taksonlardır. B9 karesi için 37, B7 karesi için 7, toplam 44 takson yeni kayıt olarak verilmiştir. B9 – B7 kareleri için verilen yeni kayıtlardan 9’u İran-Turan fitocoğrafik bölge elementi, 3’ü Avrupa-Sibirya, 3’ü Euxine fitocoğrafik bölge elementi ve 1’ü Akdeniz fitocoğrafik bölge elementidir. Yeni karelerin 11’i endemiktir.

Anahtar Kelimeler: Yayılışlar, yeni kare kayıtları, Türkiye florası

Introduction

Many specimens were collected during the botanical excursions to different areas and the floristic investigation in some areas (Baskil (Elazığ), Malatya, Pirreşit dağı (Muradiye-Van), Süphan Dağı (Patnos-Ağrı) at different times. Some taxa, which have not been, recorded from Anatolia so far as well as many taxa for B7 and B9 squares were determined. Floristically the areas where the specimens of the new records were collected are less or unknown areas (Çırpıcı 1987). By determining phytogeographical distribution of taxa, this investigation was carried on to help the researchers and workers about the taxa.

Material and Methods

The given taxa in the list of new records have been determined by using the Flora of Turkey

(Davis 1965 - 1985, Davis et al. 1988, Güner et al. 2000). The specimens gathered are kept in VANF herbarium (Yüzüncü Yıl University, Science and Art Faculty Biology Department).

In order to confirm the taxa given in the paper the works (Due to the abundance of references which were not given here, one to be found in the references list).

As the species, families and genus are given in the order of Flora of Turkey (Davis 1965-1985). Collector’s symbols (Behçet: Lütfi Behçet), (Ünal: Murat Ünal) and numbers have been marked in the list of taxa after name, endemism status and to phytogeographic region they belong to if known.

Findings

ANGIOSPERMAE

DICOTYLEDONES

RANUNCULACEAE

Ranunculus strigillosus Boiss. & Huett

B9 Van: Muradiye, between Beşparmak and Çakmak, damp meadow, 2600 m, 02.vii.1998, Ünal 4329.

NYMPHAEACEAE

Nymphaea alba L.

B9 Ağrı: Patnos, between Taşkın and Armutlu, Sarısu sazlığı, 2500 m, 22.vii.2001, Behçet 6581.

PAPAVERACEAE

Glaucium haussknechtii Bornm. & Fedde

B9 Van: around Muradiye Waterfall, road sides, 1900 m, 29.vi.1997, Ünal 1479, Ir. – Tur. element.

Glaucium haussknechtii which is known in SW Iran, and B7 and B4 squares in Turkey, is very similar to *G. grandiflorum*. *G. haussknechtii* differs from *G. grandiflorum* only just having many numbers of stems arising from the base. Our specimens show compatibility with the description of *G. haussknechtii* in terms of stem number, structure and stem length being scarcely longer than the rosette leaves.

BRASSICACEAE (CRUCIFERAE)

Alyssum desertorum Stapf var. *prostratum*

T.R.Dudley

B9 Van: Muradiye, Karaoğlan village, rocky slopes, 1716 m, 27.iv.1997, Ünal 1015.

Erysimum smyrnaeum Boiss. & Bal.

B9 Van: Muradiye, south of Pirreşit mount, meadows, 1800 m, 07.vi.1997, Ünal 1293.

CARYOPHYLLACEAE

Minuartia corymbulosa (Boiss. & Bal.)

McNeill var. *corymbulosa*

B9 Van: Muradiye, west of Pirreşit mount, steppe, 3000 m, 28.vi.1998, Ünal 3191b, Endemic, Ir. – Tur. element.

Cerastium gracile Duf.

B7 Elazığ: Baskil, Düğün-tepe village, open *Quercus*, 1700 m, 10.iv.1998, Behçet 5823.

Holosteum umbellatum L. var. *glutinosum* (M. Bieb.) Gay

B9 Van: Muradiye, east of Pirreşit mount, steppe, 2000 m, 30.vi.1998, Ünal 3323.

Petrorhagia alpina (Hablitz) P.W.Ball & Heywood subsp. *olympica* (Boiss.) P.W.Ball & Heywood

B9 Van: Muradiye, north of Adaklı village, stream side, 1800 m, 11.vii.1997, Ünal 1507.

Acanthophyllum microcephalum Boiss.

B7 Elazığ: Baskil, between Halitoğlu and Hacitemur villages, steppe, 850-900 m, 15.viii.2001, Behçet 6451.

Vaccaria pyramidata Medik. var. *oxyodonta* (Boiss.) D. Zohary

B9 Van: Muradiye, east of Pirreşit mount, steppe, 2000 m, 30.vi.1998, Ünal 3531, Ir. – Tur. element.

CHENOPODIACEAE

Atriplex micrantha C. A. Mey.

B9 Van: Campus of Y. Yıl University, waste places, 1700 m, 29.vi.2000, Behçet 6400, Ir. – Tur. element.

Halimione verrucifera (M.Bieb.) Aellen

B9 Van: around Canik saltpan, 1800 m, 25.viii.1992, Behçet 4604b.

TILIACEAE

Tilia argentea Desf. ex DC.

B7 Malatya: Konak (Aşağı Banazlı) around village, 800 m, 23.vii.1999, Behçet 6232, cultivated.

HYPERICACEAE

Hypericum thymbrifolium Boiss. & Noë

B9 Van: Muradiye, east of Pirreşit mount, damp meadow, 2400 m, 08.vi.1997, Ünal 1246, Endemic, Ir. – Tur. element.

FABACEAE (LEGUMINOSAE)

Lathyrus vinealis Boiss. & Noë

B9 Van: Muradiye, Karaoğlan village, disturbed steppe, 1780 m, 07.vi.1997, Ünal 1347, Ir. – Tur. element.

Trifolium aureum Poll.

B9 Van: Muradiye, between Adaklı village and Süphan lake, steppe, 2500 m, 11.v.1997, Ünal 1586, Euro – Sib. element.

Hedysarum elegans Boiss. & Huett

B9 Van: Muradiye, west of Pirreşit mount, steppe, 3000 m, 30.vi.1998, Ünal 3079, Ir. – Tur. element.

Onobrychis sulphurea Boiss. & Bal. var. **sulphurea**

B9 Van: Muradiye, between Adaklı village and Süphan lake, meadows, 2650 m, 06.vi.1997, Ünal 2495, Endemic.

Onobrychis sulphurea var. *vanensis* which has distribution in B9 square, differs from *O. sulphurea* var. *sulphurea* in terms of having purple veins of corolla especially in standard. Our specimens are close to *O. sulphurea* var. *sulphurea* because it doesn't contain purple veins.

O. kotschyana Fenzl

B9 Ağrı: Patnos, Süphan mount, west of Erçekli village, steppe, 2300 – 2500 m, 20.vii.2000, Behçet 6356.

O. armena Boiss. & Huett

B9 Van: Muradiye, around Beşparmak village, meadows, 2300 m, 17.vii.1997, Ünal 1667, Endemic.

ROSACEAE**Crataegus aronia** (L.) Bosch ex DC. var. **aronia**

B9 Ağrı: Patnos, Erçekli village, basaltic rocks, steppe, 2500 m, 22.vii.2001, Behçet 6589.

CRASSULACEAE**Sempervivum armenum** Boiss. & Huett var. **armenum**

B9 Van: Muradiye, east of Pirreşit mount, rocky slopes, 2200 m, 11.vii.1998, Ünal 4512, Endemic, Euxine (mt.) element.

APIACEAE (UMBELLIFERAE)**Johrenia dichotoma** DC. subsp. **sintensisii** Bornm.

B7 Elazığ: Baskil, east of İçlikavak village, rocky area, 1300 m, 18.vii.1999, Behçet 5346, Endemic (det: H. Duman).

Oenanthe aquatica (L.) Poir.

B9 Ağrı: Patnos, between Taşkın and Armutlu, Sarısu sazlığı, marshes, 2500 m, 22.vii.2001, Behçet 6606, Endemic.

DIPSACACEAE**Cephalaria anatolica** Schchian

B9 Ağrı: Patnos, north - west of Erçekli, steppe, 2500 m, 22.vii.2001, Behçet 6606, Endemic.

ASTERACEAE (COMPOSITAE)**Aster leavis** L.

B9 Van: Muradiye, cultivated land, 1716 m, 06.x.1997, Ünal 2055, cultivated.

Doronicum macrophyllum Fisch. ex Hornem.

B9 Van: Muradiye, east of Adaklı village, streamsides, 2650 m, 06.vi.1998, Ünal 2558, Euxine element.

Achillea millefolium L. subsp. **pannonica** (Scheele) Hayek

B9 Van: Muradiye, between Köseveli mount and Beşparmak village, rocky slopes, 2400 m, 17.vii.1997, Ünal 1745, Euro-Sib. element.

Artemisia campestris L.

B9 Van: Muradiye, around Yakıncak village, steppe, 1700 m, 06.x.1997, Ünal 2037.

Circium karduchorum Petr.

B9 Van: Muradiye, Topuzarpa village, steppe, 1800 m, 26.x.1997, Ünal 2280, Ir. – Tur. element.

Ptilostemon diacantha (Labram) Greuter subsp. **turcicus** Greuter

B9 Bitlis: between Adilcevaz and Patnos, around Gençali, meadows, 1800 m, 15.viii.1988, Behçet 1357. E. Medit. element.

BORAGINACEAE**Nonca stenosolen** Boiss. & Bal.

B9 Van: Muradiye, around Adaklı village, stony slopes, 2400 m, 09.v.1998, Ünal 2362, Endemic, Ir. – Tur. element.

Buglossoides incrassata (Guss.) G.H. Johnstone

B9 Van: Erek mount, steppe, 2000 m, 27.v.2000, Behçet 6239.

SOLANACEAE**Physalis alkekengi** L.

B7 Malatya: Konak (Aşağı Banazlı), cultivated land, wet places, 800 m, 23.vii.1999, Behçet 6231.

SCROPHULARIACEAE**Verbascum suworowianum** (C. Koch) Kuntze var. **suworowianum**

B9 Van: Muradiye, east of Pirreşit mount, steppe, 2000 m, 30.vi.1998, Ünal 3235, Ir. – Tur. element.

PLUMBAGINACEAE

Acantholimon venustum Boiss. var. *venustum*

B9 Ağrı: Patnos, west of Erçekli village, steppe, 2300 m, 02.vii.2000, Behçet 6347.

EUPHORBIACEAE

Res

Euphorbia szovitsii Fisch. & C. A. Mey. var. *szovitsii*

B9 Ağrı: Patnos, west of Erçekli village, steppe, 2300 – 2500 m, 02.vii.2000, Behçet 6355.

MONOCOTYLEDONES

LILIACEAE

Allium armenum Boiss. & Kotschy

B9 Van: Muradiye, between Adaklı village and Süphan lake, meadows, 2500 m, 28.vi.1997, Ünal 4229, abrobavit: M. Koyuncu.

A. stearnianum Koyuncu, Özhatay & Kollmann var. *vanense* Kollmann & Koyuncu

B7 Elazığ: Baskil, west of Alhaç village, Seher mount, rocky placed, 1300 – 1500 m, 18.vii.1999, Behçet 6194, Endemic, abrobavit: M. Koyuncu.

POACEAE (GRAMINEAE)

Agrostis gigantea Roth

B7 Elazığ: Baskil, İncik village, Sığdın stream, salty places, 800 m, 18.vii.1999, Behçet 6221, Euro – Sib. element.

Polypogon monspeliensis (L.) Desf.

B9 Muş: Malazgirt, Aktuzla village, streamside, 1500 m, 25.viii.2000, Behçet 6403.

Poa diversifolia (Boiss. & Bal.) Hack. ex Boiss.

B9 Van: Muradiye, around Adaklı village, steppe, 2400 m, 06.vi.1998, Ünal 2863.

Hyalopoa pontica (Bal.) Tzvelev

B9 Bitlis: east of Süphan mount, alpine meadows, 3800 m, 22.vi.2000, Behçet 6315. Euxin element.

Puccinellia bulbosa (Grossh.) Grossh. subsp. *caesarea* Kit Tan

B9 Ağrı: between Patnos and Adilcevaz, around Kazan village, dried up salt marshes, 1800 m, 02.vii.2000, Behçet 6370, Endemic.

Crypsis aculeata (L.) Aiton

B7 Elazığ: Baskil, İncik village, Sığdın stream, salty places, 800 m, 8.vii.1999, Behçet 6220.

Results and Discussion

The distribution of some given taxa has not been recorded so far in East Anatolia region. Their distribution are known in far and a different ecology from here.

In Turkey *Nymphaea alba* which spreads in Mediterranean region (C1,2,3,4) and West Anatolia (A2, B1,5) grows mostly in shallow lakes and ponds at temperate region (Davis 1965). It is interesting that the species grows well in aquatic areas (which are covered with ice for 3-4 of the months in a year) in northeast of Süphan mount where winters are long and harsh.

The type specimen of *Hyalopoa pontica* which is an Euxin element (Davis 1985) was collected from around Cimil, at 2800 m altitude (Rize-İkizdere (A8)). The species which has also distribution in Caucasia was known only to have its distribution around Rize in Turkey so far. Presence of this species both in highlands of Rize which has very high precipitation (3500-4000 mm) and oceanic climate, and in alpine area at Süphan mount which is very far from sea, and harsh winter conditions make one think that the species might be a relict form.

Although some taxa in our list are known from only type, some of them are known from a very limited area. As an example, after the type specimen of *Cephalaria anatolica* which is collected around Erzurum-Tortum by P.V.Nostorov in 1910s and kept in Leningrad herbarium (LE), we collected for the first time from the north of Süphan mount.

Johrenia dichotoma subspecies *sintenisi*, an endemic taxon which is collected in Mardin, is known from type. We collected the specimens of this taxon for the second time from Baskil district (Elazığ).

Puccinellia bulbosa subspecies *caesarea* is an endemic taxon and its distribution is known from the salt steppes around Deveci (Kayseri (B5)). So it is determined that the distribution area of this subspecies grown in bad drained humid area that is

converted to a salt steppe by the evaporation of the water in that area in August around Kazan village (Patnos-Ağrı (B9)) is wider than known by our record.

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