RARE AND ENDEMIC TAXA OF APIACEAE IN TURKEY AND THEIR CONSERVATION SIGNIFICANCE

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SUMMARY

The family Apiaceae (Umbelliferae) is the eighth largest family in Turkey. It is represented by 101 genera of which 53 have only 1 species and 451 species. After the publication of P. H. Davis’ “Flora of Turkey and the East Aegean Islands, vol. 4 in 1972” 4 genera and 53 species are added to the Turkish flora.

Endemism of the family in Turkey is about 33% with 159 species of which 37 are endangered. The following 4 genera are monotypic endemic very locally distributed: Ekimia bornmuelleri, Microsciadium minutum, Olymposciadium caespitosum and Crenosciadium siifoillum. Other endemic genera (end. 100%) are: Rhabdosciadium (2 sp.), Muretia (1 sp.), Kundmannia (2 sp.), Froriepa (1 sp.), Stenotaenia (1 sp.).

Ferula halophila and F. orientalis are recorded in Bern Convention App. I, it means their habitats must be protected.

ÖZET


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37'i tehlike altında 159 endemic türle familya'nın Türkiye'deki endemism oranı %33'tür. Oldukça local 4 monotipik endemic cins bulunur: Echinia bommuelleri, Microsciadum minutum, Olymphosciadium caespitosum ve Crenosciadium siiifolium. Diğer endemic cinsler (%100 endemic): Rhabdosciadium (2 sp.), Muretia (1 sp.), Kundmannia (2 sp.), Froriepia (1 sp.), Stenotaenia (1 sp.).

*Ferula halophila* ve *F. Orientalis* Bern Sözleşmesi Ek I'de kayıtlı, habitatı mutlaka korunması gereken türlerdir.

**Key words:** Apiaceae (Umbelliferae), rare species, endemic, Turkey

**INTRODUCTION**

Turkey is among the richest countries in the world in terms of flowering plant diversity. With around 9300 flowering plant species, the flora is the richest of any country in Europe, North Africa and Middle East. It is more typical of a continent or tropical country than an individual temperate country.

Wild Flowering Plants in Turkey (3, 4, 8):

<table>
<thead>
<tr>
<th>Family</th>
<th>Genera</th>
<th>Species</th>
<th>Subspecies</th>
<th>Varieties</th>
<th>Total infrageneric taxa</th>
</tr>
</thead>
<tbody>
<tr>
<td>142</td>
<td>1138</td>
<td>8898</td>
<td>1680</td>
<td>1069</td>
<td>10754</td>
</tr>
</tbody>
</table>

Since the publication of the Flora of Turkey, the Turkish flora has received considerable attention from botanists both from Turkey and abroad. The second supplement of “Flora of Turkey and the East Aegean Islands” was published in 2000.

Since 2000, up until end of 2007, 470 taxa have been added based on 350 published papers on the flora of Turkey.

Additional taxa (Özhatay & Kültür 2006, Özhatay et al. 2009):

Genera: 16
Species: 354 /subspecies: 64 /variety: 38
Total infrageneric taxa: 470

TOTAL of the Turkish flora vascular plant are 9252 species and 11224 taxa.

The main reasons for this wealth are as follows:
- A variety of climates
- topographical diversity with marked changes in ecological factors over short distance
- geological and geomorphic variation
- a range of aquatic environments such as seas, lakes and rivers
- altitude variations from sea level to 5000 m
- the situation of the country at the junction of three major phytogeographical regions:
- Euro-Siberian
- Mediterranean
- Irano-Turanian

- There are a number of major mountain ranges in Anatolia which constitute effective barriers and these have further encouraged a greater diversity of species.
- Additionally, during many historical periods, Anatolia has served as a passage way between the continents of Europe, Asia and Africa, resulting in the dispersal of a wide variety of plants and animals.

All these factors combined have provided many opportunities for the plants to evolve and differentiate creating the present wealth of species now estimated to be over 9252 taxa, about one third of which are endemics. (The Apiaceae is represented by 101 genera and 482 taxa in Turkey).

MATERIAL AND METHODS

Data were obtained by scanning the Floras, Check-Lists, Red Data Books, publications and our observations (1, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17)

RESULTS AND DISCUSSION

Apiaceae in Turkey

The family of Apiaceae with a total of 451 native species of which 159 are endemic in Turkey is remarkable in various respects.

After Gramineae (131) and Compositae (126), it is the third largest family Apiaceae (101), of the total number of the native genera and it is eighty largest family number of native species after Compositae (1132), Leguminosae (958), Labiatae (543), Cruciferae (509), Gramineae (483), Caryophyllaceae (465) and Scrophulariaceae (463).

It is also the seventh largest family having high number of endemic species after Compositae (509), Leguminosae (375), Scrophulariaceae (241), Labiatae (240), Cruciferae (194) and Caryophyllaceae (187).

It is only family has 4 monotypic and endemic genera in Turkish flora. Photos are mainly from the herbarium specimens of the monotypic genera and their distribution given (2, 5) (Fig. 1-4, maps 1-4).

Turkish genera of Apiaceae are given in the Table 1 arranged in descending.

Result of endangered species of Apiaceae according to IUCN threat categories are:
En (Endangered): 29 (27 endemics / 2 non endemics)
DD (Data deficient): 25 (7 endemics / 17 non endemics)
VU (Vulnerable): 88 (39 endemics / 49 non endemics)
CR (Critically endangered): 13 (12 endemics / 1 non endemics)  
NL (Not listed): 1 (1 endemics)

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**Monotopic endemic genera in Turkey:**

![Image of plant specimen]

**Fig. 1. Crenosciadium sifolium:** Herbarium specimen and distribution map  
Localities: Murat Dağı, (Kütahya) ISTE 45913, 57730  
Anamas Dağı (Isparta)
Fig. 2. *Ekimia bornmuelleri*; Herbarium specimen and distribution map
Localities: Dirmil-Tefenni (Burdur) ISTE 72127
Salda Gölü (Burdur)
Acipayam (Denizli)
Fig. 3. *Microsciadum minutum*; Herbarium specimen and distribution map
Localities: Bafa Gölü (Muğla) ISTE 68846; Fethiye (Muğla)
Kayaköy (İzmir)
Çince (Aydın)
CORRECTION
The page 6 was corrected as below.

Fig. 3. Microsciadium minutum; Herbarium specimen and distribution map
Localities: Bafa Gölü (Muğla) ISTE 68846; Fethiye (Muğla)
Kavaklıdere (İzmir)
Çine (Aydın)
Fig. 4. *Olymposciadium caespitosum*: Herbarium specimen and distribution map
Localities: Uludağ-Kılımlı Göl (Bursa) ISTE 20930, 59571, 67266
Karabük, Keltepe (Zonguldak)
Eğirdir, Barla Dağı (İsparta)
REFERENCES


