

Notes on the flora of Istanbul

Istanbul florası hakkında not

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Abstract

The flora of Istanbul and its surroundings is actually well known thanks to the nine volumes of *Flora of Turkey and the East Aegean Islands* and its two supplements. Basing on specimen citations accepted in these eleven volumes, we compiled in 2002 a mainlist of the taxa recorded for the province of Istanbul, which covers a surface of 5312 km² as for the year 2000. The mainlist comprises 2218 taxa of Pteridophyta plus Spermatophyta, with 533 monocots and 238 grasses. The Istanbul specimens in ISTE, c.8500 in number, were corresponding to 1502 taxa, i.e. the 68 % of the whole list. The grasses were reaching the 75 % of those inscribed in the main list.

According to *Flora of Turkey*, the number of collector names in the citations of Istanbul specimens is 140. The types count 80, the endemics 21. Four of the endemics will be no more considered as such, although remaining endemic to Turkey, as we have in ISTE specimens collected outside Istanbul: *Isatis arenaria*, *Linum tauricum* subsp. *bosphori*, *Onosma proponticum*, *Symphytum pseubulbosum*. The endemism of *Verbascum degeni* is doubtful.

A survey in ISTE has enabled to add 160 taxa to the mainlist. Some aliens are to be added to the flora of Istanbul and that of Turkey: **Pinus pinaster*, **Solanum capsicastrum*, **S. sodomeum*, **S. jasminoides*. The presence of *Juniperus communis* subsp. *communis* was already confirmed by a specimen collected from one locality in Istanbul in Europe. The following taxa, accepted in the *Flora*, should be added to the flora of Istanbul: **Dichondra repens*, **Commelina communis*, **Aster squamatus*, **Solanum cornutum*, **Aptenia cordifolia*, **Acacia retinodes*, **A. dealbata*, **A. cyanophylla*, **A. karroo*, *Amaranthus viridis*. Not less than 2400 Pteridophyta plus Spermatophyta have been recorded up to now from the province of Istanbul.

Keywords: Flora of Istanbul, flora of Turkey.

Introduction

The flora of Istanbul and its surroundings is actually well known thanks to the nine volumes (Davis 1965-1985) and the two supplements (Davis 1988, Güner et al. 2000) of the *Flora of Turkey and the East Aegean Islands*. By scanning the specimen citations accepted in the eleven volumes, we compiled in 2002 (Baytop 2002) a mainlist of the taxa already recorded from the province of Istanbul (in Turkish: Istanbul vilayeti or Istanbul ili). The province lies in the grids A2 (E) and AE (A) of the distributional grid system adopted by the *Flora*. In the present article, we shall understand by the ward Istanbul, the entire vilayet.

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Results and Discussion

The area covers 5312 km² as for the year 2000, indicated in the *Turkish Statistical Yearbook (Türkiye İstatistik Yıllığı) 2000*, published by the State Institute of Statistics (Devlet İstatistik Enstitüsü) in Ankara, 2001. The list we have compiled, we named it the mainlist. It comprises the species, subspecies, varieties, forms, intermediary forms, and hybrids of native or introduced plants, cited from Istanbul. Are included the doubtfully recorded ones, those which need confirmation, the misidentified ones, aliens, cultivated plants, the taxa which may be extinct. When examining the specimen citations, we didn't fail to verify if the localities mentioned in Istanbul, are really situated within the province. For instances, Dolayba, Pendik, Tuzla, Çilingoz are suburbs located in the vilayet of Istanbul. Yalova, formerly a district of Istanbul, is a distinct province of 850 km² since 6 June 1992.

The main list comprises 2218 taxa of Pteridophyta plus Spermatophyta. Among them, 533 are monocots, i.e. the 25 % of the whole. The grasses are 238 in number and represent the 45 % of the monocots. In 2002, the Herbarium of the Faculty of Pharmacy of Istanbul University (ISTE) was holding 8500 specimens collected from Istanbul, including native plants, aliens, cultivated plants derived from seeds, bulbs or seedlings brought from Anatolia or procured from abroad, plants collected from parks, gardens or greens, or purchased from markets and florists. These specimens were corresponding to 1502 taxa, i.e. the 68 % of the taxa represented in the mainlist. Again in 2002, the grasses were representing in ISTE only the % 75 of those recorded in the main list.

The earliest collecting date on specimen citations was 1701, on specimens belonging to Tournefort. J.P.de Tournefort (1656-1708) was a French professor of Botany who visited between 1700-1702 the Aegean Islands, came to Istanbul, went to Trabzon on sea, herborized in N.E.Anatolia, the western parts of Georgia and of Armenia, crossed westwards Anatolia up to Izmir, from where he returned home. His rich collection is kept in the Museum National d'Histoire Naturelle, Paris (P).

The earliest date of naming a species is 1753, by Linnaeus, author of the *Species Plantarum*, whose date of publication 1753 is accepted as a starting point for the validity of Latin species names. The flora of Istanbul, as we know from *Flora of Turkey*, lies upon material collected during a period of 300 years. If we take into consideration the plants introduced from Istanbul to Europe by the travelers of the mid-16 th century, we may say that the European interest in the plants of Istanbul has already begun 450 years ago.

In *Flora of Turkey*, the collector names on the citations of Istanbul specimens are about 140 in number. Are included, although rare, the authors whose material is accepted in the *Flora* without being seen, as Tchihatcheff, Rigler, Urumov. As collector, G.V.Aznavour (1861-1920) deserves the first rank with his specimens representing 1040 taxa, i.e. the 45 % of the taxa in the mainlist. Aznavour was an amateur botanist who lived in Istanbul and has much collected from the area between 1885-1920 (Baytop 1961, Demiriz 1964). He identified himself his specimens and published them. His rich collection is actually kept in the Conservatoire Botanique de Genève (G). It has been examined by Davis (1918-1992) and his collaborators during the elaboration of the Flora of Turkey project in Edinburgh.

According to *Flora of Turkey*, the type specimens recorded from Istanbul, whether holotypes, lectotypes or syntypes or not yet typified, reach 80 in number (Baytop 2002). Among them, 14 types are cited without indication of their collectors. Aznavour is the collector of 20 types; T.Baytop, the collector of one type (vol.8:428); T. Uslu, the collector of one type (vol.10:181); Demiriz et al. the collectors of 2 types (vol.11: 2, 3). The citations of some Anatolian

decorative old plants, as *Muscari muscarimi* (vol.8:249), *Sternbergia clusiana* (vol.8:363), which were grown in Istanbul gardens in the Ottoman time and were introduced from there to European countries, are not provided with dates and collector names.

Flora of Turkey accepts 21 endemics to Istanbul (Baytop 2002). Four of them will be no more considered as such, although remaining endemic to Turkey. The reason is that there are in ISTE Turkish specimens collected outside Istanbul: *Isatis arenaria* Azn. (vol.1:301), as ISTE has specimens collected from Kırklareli (ISTE 11966) and Sinop (ISTE 67639); *Linum tauricum* Willd. subsp. *bosphori* Davis (vol.2:429), as there are in ISTE specimens from Tekirdağ (ISTE 17815, 25015), Edirne (ISTE 17964) and Kırklareli (ISTE 28201); *Onosma proponticum* Azn. (vol.6:352), because of the specimens collected from Kırklareli (ISTE 22399, 70933); *Symphytum pseudobulbosum* Azn. (vol.6:383), since there are in ISTE specimens collected from Kırklareli (ISTE 24463, 31781, 37332). The endemism of *Verbascum degeni* is actually doubtful. If we consider it synonymous to *V. haussknechtii* recorded from Greece, as accepted by Ferguson in *Flora Europaea* 1972 (vol.3:214), it will be no more endemic to Turkey and Istanbul.

A survey that we made in 2002 on the registers of ISTE has enabled us to add to the mainlist c.160 taxa, which presence in Istanbul was not recorded in the *Flora* (Baytop 2002). On the other hand, we found that a few aliens non accepted in the *Flora* have to be added to the flora of Istanbul and that of Turkey, as **Pinus pinaster* Ait. (ISTE 12179), **Solanum capsicastrum* Link ex Schauer (ISTE 51833), **S. sodomium* L. (ISTE 45818), **S. jasminoides* Paxt. (ISTE 81863). *Juniperus communis* L. subsp. *communis* (ISTE 14902, 16500) is native in Turkey and known actually from only one locality in Istanbul in Europe. It is clearly distinct from the common *J. oxycedrus* by its leaves with one broad stomatiferous band and its cones bluish black when ripe. Its presence in Turkey in Europe has been already published years ago (Baytop and Özocak 1970).

The *Flora of Turkey* relies on specimen examination. We can be informed about the distribution of a species by consulting the specimen citations. Some plants as *Pinus brutia*, *P. pinea*, *Cupressus sempervirens*, *Nymphaea alba*, *Ailanthus altissima*, although common in the area, are not recorded for Istanbul in the *Flora*, a fact certainly due to the lack of material seen. Two species once reported from Belgrat forest have not been found again: *Equisetum sylvaticum* L. and *Erythronium dens-canis* L. Many districts, as Beyoğlu (Péra), Şişli, Nişantaşı, where Aznavour has much collected one hundred years ago, are since many years completely inhabited, without any trace of a simple ground. Impossible also to find again the plants he first collected from the localities he designed as Şişli-Kağıthane, Safraköy, Halkalı, Pendik.

On the other hand, many new findings have been discovered in the last twenty years. As aliens recently established in the city, we can cite **Dichondra repens* J.R.Forst et G.Forst (ISTE 63591, 65095), **Commelina communis* L. (ISTE 55004, 55713) and **Aster squamatus* (Sprengel) Hieron. (ISTE 62532), all spreading quite rapidly. **Solanum cornutum* Lam. (62469, 69895) is occasionally seen in the lawny places. **Aptenia cordifolia* (L.f.) Schwantes (ISTE 81724, 81865) is grown in the gardens and cemeteries to cover the ground. **Acacia retinodes* Schlecht.(ISTE 81723), **A.dealbata* Link (obs.), *A.cyanophylla* Lindley (obs.), **A.karoo* Heyne (ISTE 65084, 65383) are woody decoratives. *Amaranthus viridis* L. (ISTE 81457), known in the *Flora* with only one specimen collected by P.H.Davis from Antalya, has been found recently in the city under a hedge bordering the road. A2 (E) Istanbul is then its second distribution in Turkey, disjunct from the first.

We see that in the progress of the time, some plants have disappeared from the flora of Istanbul and some others have been discovered and added to it. As long as researches continue, additamenta will never have an end. It seems that not less than 2400 taxa (Pteridophyta plus Spermatophyta) have been recorded up to now from the province of Istanbul.

Özet

Flora of Turkey and the East Aegean Islands adlı eserin dokuz cildi ve iki süplemanı içinde yer alan İstanbul ilinden toplanmış örneklerin kayıtlarını tarayarak, 2002 yılında bir İstanbul ili florası analistesi hazırlamıştık. 2000 yılı itibariyle 5312 km² lik bir alan kaplayan İstanbul ili içinde, bu listeye göre 2218 takson (Pteridophyta artı Spermatophyta) adı saydık. Listede 533 monokot ve 238 gramine adı vardır. O yılda, İSTE'de 8500 kadar İstanbul örneği birikmiş bulunuyordu. Bu örnekler 1502 takson, yani analistenin % 68' ini temsil ediyordu. Graminelere gelince, İSTE' deki İstanbul örneklerinin tekabül ettiği taksonların, analistedeki graminelerin % 75' i kadardı.

Flora of Turkey'de kayıtlı İstanbul örneklerinin toplayıcı sayısı 140, İstanbul'dan toplanmış tipörneklerin sayısı 80, İstanbul endemiklerinin sayısı 21 kadardır. Endemiklerin dördü, İSTE' de bulunan İstanbul dışı örneklerden dolayı, Türkiye için endemik kalmakla beraber, artık İstanbul için endemik değildir: *Isatis arenaria*, *Linum tauricum* subsp. *bosphori*. *Onosma proponticum*, *Symphytum pseudobulbosum*. Bundan başka, *Verbascum degenii*'nin İstanbul ve Türkiye için endemik oluşu kesin değildir.

İSTE' de yaptığımız bir araştırma sonucunda, *Flora of Turkey*'i tarayarak elde ettiğimiz İstanbul florası listesine 160 kadar tür adı ilave ettik. Türkiye florasına da dış kökenli birkaç tür ekledik: **Pinus pinaster*, **Solanum capsicastrum*, **S.sodomeum*, **S.jasminoides*. Bu arada, *Juniperus communis* subsp. *communis*'in İstanbul'da ve dolayısıyla Türkiye'de yerli olarak varlığı daha evvelce kanıtlanmıştı. *Flora of Turkey*' de kabul edilmiş olan aşağıdaki türler, İstanbul florasına da ilave edilmesi gereken türlerdendir. **Dichondra repens*, **Commelina communis*. **Aster squamatus*. **Solanum cornutum*. **Aptenia cordiflora*, **Acacia retinodes*, **A.dealbata*, **A. cyanophylla*, **A. karroo* ve *Amaranthus viridis*. İstanbul ili içinden bugüne kadar en az 2400 kadar bitki türü (Pteridophyta artı Spermatophyta) kaydedildiğini söyleyebiliriz.

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Received: 03.11.2008

Accepted: 10.12.2008