Which Plant Species are the Most Common in Turkish Cities?

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Introduction

Biodiversity in urban areas is crucially important because it may positively affect the life quality of inhabitants and ecosystem functioning. Urban ecosystems can host various small- scale habitats, which might be rich in nutrients and highly disturbed. Therefore, urban habitats such as city parks, vacant lots, roadsides, and peri-urban grasslands may preserve and maintain relatively high levels of biodiversity. Species composition of these habitats is subjected to their management types, intensity, patch size and shape, patch connectivity, temporal dynamics with biotic and abiotic compounds. The effects of urbanisation on natural biodiversity and species composition have been widely studied across the cities of Europe (e.g. Araújo 2003; Ricotta et al. 2009; Lososová et al. 2012) and Mediterranean region (Filibeck et al. 2016; Heywood 2017). However, little is known about Eurasia to the Middle East. For Turkey, most studies have focused on different aspects of urban researches (i.e. urban flora, habitat mapping and species diversity), however, no previous study was performed on a comprehensive plant diversity and compositional research.

Fig. 1. A typical urban area where plant species under anthropogenic effects. İstanbul, Anatolian part.

Methods

In this study, we collected floristic lists of 13 cities across Turkey belonging to 27 studies. We collected information about species occurence for the cities. We considered natural species, not planted (or culture) species. We considered turkish cities which have more than 100000 inhabitants. Nomenclature follows Güner et al. (2012).

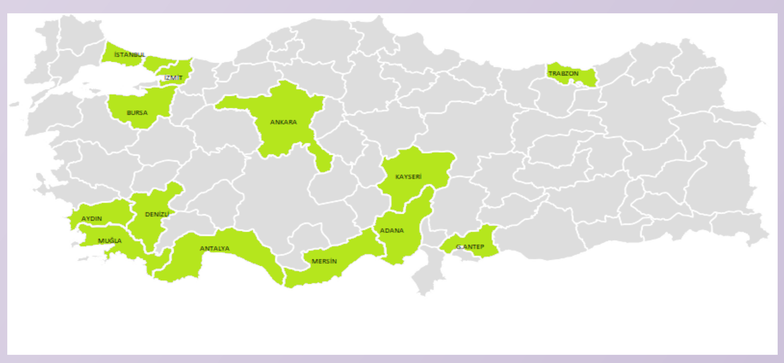


Fig. 2. Distribution of the cities included in this study.

Table 1. The most common plant species found in Turkish cities.

	FAMILY	BOTANICAL NAME OF THE SPECIES	DATA (27)
1	BRASSICACEAE	*Capsella bursa-pastoris*	25
2	CONVOLVULACEA	*Convolvulus arvensis*	24
3	PLATANACEAE	*Platanus orientalis*	24
4	ASTERACEAE	*Conyza canadensis*	23
5	MALVACEAE	*Malva sylvestris*	23
6	PAPAVERACEAE	*Papaver rhoeas*	23
7	ARALIACEAE	*Hedera helix*	22
8	JUGLANDACEAEA	*Juglans regia*	22
9	LAURACEAE	*Laurus nobilis*	22
10	ASTERACEAE	*Bellis perennis*	22

Results and Discussion

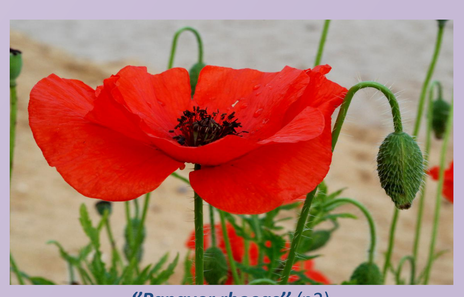
We found that *Capsella bursa-pastoris* (L.) Medik. were the most common natural species for Turkish cities which is found in 25 studies (Table 1). According to our results the most common 10 species can be seen on Table 1. The mos common species list includes both herbaceaus and woody species. All of these species are quite common in Turkish natural habitats as well, as expected.

Our study is an ongoing research which focus on plant diversity and composition across Turkish cities. We believe that this work will shed light on biodiversity patterns of Turkish urban areas as well as their anthropogenic effects on plant diversity.


"Convolvulus arvensis" (p4)


"Capsella bursa-pastoris" (p3)


"Malva slyvestris" (p5)


"Papaver rhoeas" (p2)


'Bellis perennis" (p1)

Fig. 3. Some well known plant species found in our study.

References

Araújo MB (2003) The coincidence of people and biodiversity in Europe. Global Ecol Biogeogr 12(1):5–12.
Ricotta C, La Sorte FA, Pyšek P, Rapson GL, Celesti-Grapow L, Thompson K (2009) Phyloecology of urban alien floras. J Ecol 97(6):1243–1251.
Lososová Z, Chytrý M, Tichý L, Danihelka J, Fajmon K, Hájek O, Kintrová K, Kühn I, Láníková D, Otýpková Z et al (2012a) Native and alien floras in urban habitats: a comparison across 32 cities of central Europe. Global Ecol Biogeogr 21(5):545–555.
Filibeck G, Petrella P, Cornelini P (2016) All ecosystems look messy, but some more so than others: A case-study on the management and acceptance of Mediterranean urban grasslands. Urban For Urban Gree 15:32–39.
Heywood VH (2017) The nature and composition of urban plant diversity in the Mediterranean. Flora Medit 27:195–220.
Güner A, Aslan S, Ekim T, Vural M, Babaç MT (2012) Plant List of Turkey: Vascular Plants. Nezahat Gökyiğit Botanical Garden Press, ANG Foundadion, İstanbu
Photo; [p1: *https://pflanzenbestimmung.info , 17.11.2020], [p2: https://nivabg.com , 18.11.2020], [p3: http://www.plantsoftheworldonline.org , 14.11.2020], [p4: https://pt.m.wikipedia.org , 14.11.2020], [p5: https://biopoiotita.blogspot.com , 11.11.2020], [p6: https://www.istanbuldagitimlojistik.com , 13.11.2020].*