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Review Article

Importance of edible wild plants in world food security: The case of Turkey

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Abstract

Production in industrial agriculture is under threat in the near future due to air pollution, excessive consumption, and climate change. Commercial production of traditional products is significant for the continuity of product diversity. Edible wild plants are usually collected from the wild and consumed for local needs. However, there are not enough initiatives for the cultivation of these plants. Turkey, which is very rich in point of biological diversity, is among the lucky countries in this regard. An important part of approximately 12000 plants in its flora is consumed as a food source by traditional methods. In this study, a list of 76 plants belonging to 34 families that are widely consumed for food purposes in Turkey is given.

Introduction

Turkey is one of the countries with the richest plant biodiversity among its neighbors with approximately 12000 plant taxa including 3649 endemic wild plants, and exotic, and agricultural plants [1]. A significant part of these plants is used in traditional medicine. However, it has different ethnobotanical uses such as food, spice and tea [2].

Edible wild plants in Turkey are generally collected from the wild and consumed directly or sold in local and sometimes regional markets. Inventory of edible wild plants has gained more importance in recent years in terms of world food security. Although the use of these plants is regional, it has started to be traded today [3]. The interest in nature-oriented life was also a factor in this. As an alternative to industrial kitchen products, wild plants have started to take place more in Turkish cuisine as raw or cooked. It has been stated that edible wild plants can be an important source of income for local communities as well as a good source of food [4].

Edible wild plants in Turkey

Ethnobotanical studies conducted in Turkey, it has been revealed that wild plants are frequently used for food purposes with various methods [4-16]. Edible wild plants are mostly consumed by rural people. However, in recent years, the desire for natural nutrition has increased the sales of these plants in local markets. In parallel, it has been observed that trial gardens for the cultivation and production of wild plants have been established on a regional basis in order to fill the gap in the market [17].

In Table 1, a list of the most widely used edible wild plants in Turkey has been created. Local names and used parts of 76 plant taxa belonging to 34 families were also added.

Conclusion

Although Turkey's biological diversity is rich, it can be said that it is still at the beginning of the evaluation phase. This wealth, which is usually expressed in numbers, is recorded only

Table 1: Edible wild plants widely consumed in Turkey

Family	Botanical name	Vernacular name	Used parts	References
Adoxaceae	<i>Sambucus ebulus</i> L.	Mürver otu	Fruits	[18]
Adoxaceae	<i>Viburnum opulus</i> L.	Gilaburu	Fruits	[19,20]
Amaranthaceae	<i>Amaranthus hybridus</i> L.	Küllüce	Leaves	[21]
Amaryllidaceae	<i>Allium scorodoprasum</i> L.	Deli pırasa	All parts	[22]
Anacardiaceae	<i>Cotinus coggygia</i> Scop.	Boyacı sumağı	Fruits	[23]
Anacardiaceae	<i>Pistacia terebinthus</i> L.	Menengiç	Fruits	[14]
Anacardiaceae	<i>Rhus coriaria</i> L.	Sumak	Fruits	[24,25]
Apiaceae	<i>Daucus carota</i> L.	Yabani havuç	All parts	[10]
Apiaceae	<i>Falcaria vulgaris</i> Bernh.	Kazayağı	Leaves	[10]
Apiaceae	<i>Foeniculum vulgare</i> Mill.	Rezene	Aerial parts	[10,26]
Apiaceae	<i>Oenanthe pimpinelloides</i> L.	Kazayağı	Leaves	[10,27]
Araceae	<i>Arum dioscoridis</i> Sm.	Tırşik	Leaves, Roots	[28]
Araceae	<i>Arum italicum</i> Mill.	Domuz lahanası	Rhizome	[18]
Asparagaceae	<i>Ornithogalum sigmoideum</i> Freyn & Sint.	Sakarca	Onion, Leaves	[29]
Asteraceae	<i>Carduus nutans</i> L.	Deve diken	Stem	[26]
Berberidaceae	<i>Berberis crataegina</i> DC.	Karamuk	Fruits	[30]
Berberidaceae	<i>Berberis vulgaris</i> L.	Kızıl karamuk	Fruits	[5]
Boraginaceae	<i>Trachystemon orientalis</i> (L.) G. Don	Tomara	Leaves, Flowers	[31]
Brassicaceae	<i>Capsella bursa-pastoris</i> (L.) Medik.	Çoban çantası	Aerial parts	[26]
Brassicaceae	<i>Nasturtium officinale</i> R.Br.	Suteresi	Aerial parts	[27]
Cannabaceae	<i>Celtis australis</i> L.	Çitlenbik	Fruits	[32]
Capparaceae	<i>Capparis spinosa</i> L.	Kebere	Fruits, Buds	[6]
Caryophyllaceae	<i>Stellaria media</i> (L.) Vill.	Kuşotu	Aerial parts	[33]
Chenopodiaceae	<i>Chenopodium album</i> L.	Evlita	Leaves	[33]
Cornaceae	<i>Cornus mas</i> L.	Kızılıcık	Fruits	[26]
Ebenaceae	<i>Diospyros lotus</i> L.	Hırnık	Fruits	[34]
Elaeagnaceae	<i>Elaeagnus angustifolia</i> L.	İğde	Fruits	[14]
Elaeagnaceae	<i>Elaeagnus rhamnoides</i> (L.) A. Nelson	Çıçırgan	Fruits	[35]
Ericaceae	<i>Arbutus unedo</i> L.	Kocayemiş	Fruits	[36]
Ericaceae	<i>Vaccinium arctostaphylos</i> L.	Likapa	Fruits	[9]
Ericaceae	<i>Vaccinium myrtillus</i> L.	Ayı üzümü	Fruits, Leaves	[9]
Ericaceae	<i>Vaccinium uliginosum</i> L.	Avcı üzümü	Fruits	[37]
Fabaceae	<i>Ceratonia siliqua</i> L.	Keçi boynuzu	Fruits	[6]
Fagaceae	<i>Castanea sativa</i> Miller	Anadolu kestanesi	Fruits	[9]
Fagaceae	<i>Quercus ithaburensis</i> subsp. <i>macrolepis</i> (Kotschy) Hedge & Yalt.	Palamut meşesi	Fruits	[38]
Grossulariaceae	<i>Ribes alpinum</i> L.	Çalı çileği	Fruits	[31]
Grossulariaceae	<i>Ribes orientale</i> Desf.	Çeçem	Fruits	[39]
Grossulariaceae	<i>Ribes petraeum</i> Wulfen	Kaya çeçemi	Fruits	[40]
Grossulariaceae	<i>Ribes uva-crispa</i> L.	Bektaşlı üzümü	Fruits	[41]
Juglandaceae	<i>Juglans regia</i> L.	Ceviz	Seeds	[6]
Lamiaceae	<i>Mentha longifolia</i> (L.) L.	Pünk	Flowering stem, Leaves	[26]
Lamiaceae	<i>Mentha pulegium</i> L.	Yarpuz	Flowering stem, Leaves	[6]
Lamiaceae	<i>Origanum onites</i> L.	Bilyalı kekik	Flowering stem, Leaves	[6]
Lamiaceae	<i>Origanum vulgare</i> subsp. <i>gracile</i> (K.Koch) Ietsw.	Kara kınık	Flowering stem, Leaves	[42]
Lamiaceae	<i>Rosmarinus officinalis</i> L.	Biberiye	Flowering branch, Leaves	[26]
Lamiaceae	<i>Thymbra spicata</i> (L.) Cav.	Acı kekik	Flowering branch, Leaves	[14]
Lamiaceae	<i>Thymus nummularius</i> M.Bieb.	Limon kekiği	Flowering branch, Leaves	[43]
Malvaceae	<i>Malva neglecta</i> Wallr.	Ebegümece	Leaves	[14,27]

Malvaceae	<i>Malva sylvestris</i> L.	Ebegümeçi	Leaves	[26]
Moraceae	<i>Ficus carica</i> L.	İncir	Fruits	[26]
Myrtaceae	<i>Myrtus communis</i> subsp. <i>communis</i>	Mersin	Fruits	[44]
Oleaceae	<i>Olea europaea</i> subsp. <i>europaea</i>	Zeytin	Fruits	[6,14]
Orchidaceae	<i>Dactylorhiza euxina</i> (Nevski) Czerep.	Salep	Tuber	[45]
Orchidaceae	<i>Dactylorhiza urvilleana</i> (Steud.) Baumann & Künkele	Orchidaceae	Tuber	[46]
Plantaginaceae	<i>Plantago major</i> L.	Sinirliot	Leaves	[6,33]
Polygonaceae	<i>Rumex acetosella</i> L.	Efelik	Leaves	[4,26]
Polygonaceae	<i>Rumex crispus</i> L.	Labada	Leaves	[26]
Portulacaceae	<i>Portulaca oleraceae</i> L.	Semizotu	Aerial parts	[47]
Rosaceae	<i>Cerasus mahaleb</i> (L.) Mill.	Mahlep	Seeds	[32]
Rosaceae	<i>Crataegus microphylla</i> K. Koch	Kocakarı armudu	Fruits	[26]
Rosaceae	<i>Crataegus monogyna</i> Jacq.	Yemişen	Fruits	[26,30]
Rosaceae	<i>Crataegus orientalis</i> (Mill.) M.Bieb.	Aliç	Fruits	[15]
Rosaceae	<i>Crataegus tanacetifolia</i> (Poir.) Pers.	Kotan alıcı	Fruits	[48]
Rosaceae	<i>Fragaria vesca</i> L.	Dağ çileği	Fruits	[46]
Rosaceae	<i>Prunus laurocerasus</i> L.	Karayemiş	Fruits	[9]
Rosaceae	<i>Mespilus germanica</i> L.	Muşmula	Fruits	[36]
Rosaceae	<i>Prunus divaricata</i> Ledeb.	Yunus eriği	Fruits	[26,30,49]
Rosaceae	<i>Prunus spinosa</i> L.	Çakal eriği	Fruits	[21]
Rosaceae	<i>Pyrus amygdaliformis</i> Vill.	Çöğür armudu	Fruits	[44]
Rosaceae	<i>Pyrus elaeagnifolia</i> Pall.	Ahlat	Fruits	[26,44]
Rosaceae	<i>Rosa canina</i> L.	Kuşburnu	Fruits	[6,50]
Rosaceae	<i>Rubus canescens</i> DC.	Çoban kösteği	Fruits	[27,51]
Rosaceae	<i>Rubus hirtus</i> Waldst. & Kit.	Tüntürük	Fruits	[52,53]
Rosaceae	<i>Rubus idaeus</i> L.	Ahududu	Fruits	[52,53]
Rosaceae	<i>Rubus sanctus</i> Schreb.	Böğürtlen	Fruits	[52,53]
Smilacaceae	<i>Smilax excelsa</i> L.	Diken ucu	Fresh shoot	[29]

through ethnobotanical studies. Very few edible wild plants are cultivated, especially in the country where the current agricultural lands and pastures are not evaluated efficiently due to wrong agricultural policies. Although the inventory studies are sufficient, there are not enough initiatives on the necessary training, infrastructure establishment, and market research. Turkey, which has seven geographical regions, also shows continental climate, Mediterranean climate, Black Sea climate, desert climate, and many macroclimatic features. Different vegetation types such as forest vegetation, steppe vegetation, stream vegetation, dune vegetation, alpine vegetation, and maquis vegetation are an indication that it is the main source of wild plant reserve that will adapt to possible climate changes. Therefore, Turkey will be the sustainable production center of many cereal crops, agricultural crops, and orchards in the future.

References

- Güner A, Aslan S, Ekim T, Vural M, Babaç MT. Turkey bitkileri listesi (Damarlı bitkiler) [List of plants of Turkey (Veinous plants)]. Nezahat Gökyiğit Botanik Bahçesi ve Flora Araştırmaları Derneği Yayını 2012.
- Ertuğ F. Etnobotanik [Ethnobotany]. In A. Güner & T. Ekim (Eds.), Resimli Turkey florası [Illustrated flora of Turkey] Vol. I. Ali Nihat Gökyiğit Vakfı, Flora Araştırmaları Derneği ve Turkey İş Bankası Kültür Yayınları 2014; 319-380.
- Kan Y, Günhan RS, Kevseroğlu K, Eminağaoğlu Ö, Akbulut S, Dede Ö. Doğu Karadeniz Bölgesi Tıbbi ve Aromatik Bitkilerin Envanterinin Çıkarılması, Ticari Kullanımının Araştırılması ve Üreticilerin Eğitimi Projesi Eğitim Kitabı [Inventory of Medicinal and Aromatic Plants of the Eastern Black Sea Region, Research of Commercial Use and Training of Producers Project Training Book]. Kalkınma Bakanlığı [Ministry of Development] 2017; 146.
- Tan A, Adanacıoğlu N, Karabak S, Aykas L, Tas N, Taylan T. Biodiversity for food and nutrition: edible wild plant species of Aegean region of Turkey. ANADOLU J. of AARI 2017; 27(2):1-8.
- Altundağ Çakır E. Traditional knowledge of wild edible plants of Iğdır Province (East Anatolia, Turkey). Acta Societatis Botanicorum Poloniae 2017; 86(4):3568. <https://doi.org/10.5586/asbp.3568>
- Ertuğ F. Wild edible plants of the Bodrum area (Muğla, Turkey). Turkish Journal of Botany 2004; 28(1):161-174.
- Kendir G, Güvenç A. Ethnobotany and a general view of ethnobotanical studies in Turkey. Hacettepe University Journal of the Faculty of Pharmacy 2010; 30(1):49-80.
- Akbulut S, Karakose M, Özkan ZC. Traditional uses of some wild plants in Kale and Acıpayam provinces in Denizli. Kastamonu University Journal of Forestry Faculty 2019; 19(1): 72-81. <https://doi.org/10.17475/kastorman.543529>.
- Akbulut S, Özkan ZC. Traditional usage of some wild plants in Trabzon region (Turkey). Kastamonu University Journal of Forestry Faculty 2014; 14(1):135-145.

10. Doğan A, Bulut G, Tuzlacı E, Şenkardeş İ. A review of edible plants on the Turkish Apiaceae species. *Istanbul Journal of Pharmacy* 2014; 44(2):251-262.
11. Genç GE, Özhatay N. An ethnobotanical study in Çatalca (European part of İstanbul) II. *Turkish Journal of Pharmaceutical Sciences* 2006; 3(7):83-89.
12. Gürdal B, Öztürk F. Ethnobotanical research in Sürmene district (Trabzon-Turkey, Black Sea Region). *Advances in Traditional Medicine* 2022; 22:293-304.
13. Yeşilyurt EB, Şimşek I, Akaydın G, Yeşilada E. An ethnobotanical survey in selected districts of the Black Sea region (Turkey). *Turkish Journal of Botany* 2017; 41(1):5. <https://doi.org/10.3906/bot-1606-12>.
14. Yeşil Y, Çelik M, Yılmaz B. Wild edible plants in Yeşilli (Mardin-Turkey), a multicultural area. *Journal of Ethnobiology and Ethnomedicine* 2019; 15:52. <https://doi.org/10.1186/s13002-019-0327-y>.
15. Koçak S, Özhatay N. Wild edible plants in Karaman (Southern Turkey). *Istanbul Journal of Pharmacy* 2013; 43(1):21-32.
16. Karaköse M, Akbulut S, Özkan ZC. Ethnobotanical study of medicinal plants in Torul district, Turkey. *Bangladesh Journal of Plant Taxonomy* 2019; 26(1):29-37.
17. Kan Y, Kevseroğlu K, Çalışkan Ö, Akbulut S, Çelik AS, Ayrın İ. DOKAP Bölgesinde Tıbbi ve Aromatik Bitki Yetiştiriciliğinin Yaygınlaştırılması Projesi Eğitim Kitabı [Dissemination of Medicinal and Aromatic Plant Breeding in the DOKAP Region Project Training Book]. Sayram Publications 2020; 168. Konya.
18. Kızıllarslan Ç, Özhatay N. Wild plants used as medicinal purpose in the south part of İzmit (Northwest Turkey). *Turkish Journal of Pharmaceutical Sciences* 2012; 9(2):199-218.
19. Koparal AT. In Vitro Evaluation of Gilaburu (*Viburnum opulus* L.) Juice on Different Cell Lines. *Anadolu Journal of Educational Sciences International* 2019; 9(2):549-571 <https://doi.org/10.18039/ajesi.577253>
20. Ulger H, Ertekin T, Karaca O, Canoz O, Nisari M, Unur E, Elmali F. Influence of gilaburu (*Viburnum opulus*) juice on 1,2-dimethylhydrazine (DMH)-induced colon cancer. *Toxicol Ind Health*. 2013 Oct;29(9):824-9. doi: 10.1177/0748233712445049. Epub 2012 Apr 30. PMID: 22546843.
21. Kızıllarslan Hançer Ç, Sevgi E, Büyükkiliç Altınbaşak B, Altundağ Çakır, Akkaya M. Traditional Knowledge of Wild Edible Plants of Biga (Çanakkale), Turkey. *Acta Societatis Botanicorum Poloniae* 2020; 89(1):8914. <https://doi.org/10.5586/asbp.8914>.
22. Firat M, Aziret A. Edible Allium L. species that are sold as fresh vegetables in public bazaars of Hakkâri province and its surroundings in Turkey. *Acta Biologica Turcica* 2016; 29(1):14-19.
23. Aslan H. Determination of Ornamental Plants Bearing Industrial Value and Their Use in Landscapes. 2nd International Vocational Science Symposium. IVSS 2018.
24. Akgul A, Akgul A, Senol SG, Yildirim H, Secmen O, Dogan Y. An ethnobotanical study in Midyat (Turkey), a city on the silk road where cultures meet. *J Ethnobiol Ethnomed*. 2018 Feb 7;14(1):12. doi: 10.1186/s13002-017-0201-8. PMID: 29415748; PMCID: PMC5804065.
25. Bulut G. Medicinal and wild food plants of Marmara Island (Balıkesir-Turkey). *Acta Societatis Botanicorum Poloniae* 2016; 85(2):1-16. <https://doi.org/10.5586/asbp.3501>
26. Özdemir E, Kültür Ş. Wild Edible Plants of Savaştepe District (Balıkesir, Turkey). *Marmara Pharmaceutical Journal* 2017; 21(3):578-589. <https://doi.org/10.12991/marupj.319328>
27. Poyraz Kayabaşı N, Tümen G, Polat R. Wild edible plants and their traditional use in the human nutrition in Manyas (Turkey). *Indian Journal of Traditional Knowledge* 2018; 17(2):299-306.
28. Ozbay E, Turkseven ÇH, Karagoz S, Buyukakilli B. Determination of Half Maximal Effective Concentration (EC50) Values on Skeletal Muscle Mechanic Activity of *Arum dioscoridis*, a Species Belonging to *Arum* Genus, One of the Plants of Karaman Province Region (Phase 0 – Preclinical Studies). *KMU Journal of Engineering and Natural Sciences* 2021; 3(2):86-109.
29. Bayrak Özbucak T, Ergen Akçin Ö, Yalçın S. Nutrition Contents of the Some Wild Edible Plants in Central Black Sea Region of Turkey. *International Journal of Natural and Engineering Sciences* 2007; 1:11-13.
30. Dogan A, Tuzlacı E. Wild Edible Plants of Pertek (Tunceli-Turkey). *Marmara Pharmaceutical Journal* 2015; 19:126-135. <https://doi.org/10.12991/mpj.20151910459>
31. Doğru Koca A, Yıldırım Ş. Ethnobotanical Properties of Akçakoca District in Düzce (Turkey). *Hacettepe Journal of Biology and Chemistry* 2010; 38(1):63-69.
32. Demir A, Ayaz N. Wild edible plants contributing to the traditional foods of Mardin (Turkey) Province. *Indian Journal of Traditional Knowledge* 2022; 21(3):569-582.
33. Tuttu G, Abay G, Yıldırım S. Some Wild Edible Plants of Tosya District (Kastamonu, Turkey). *International Journal of Scientific and Technological Research* 2019; 5(3):129-135. <https://doi.org/10.7176/JSTR/5-3-15>
34. Turan Koyuncu F, Koyuncu O. New Hope Agriculture of Turkey: *Diospyros* sp. (Trabzon Date, Paradise Date). *Research Journal of Biology Sciences* 2019; 12(1):35-41.
35. Satıl F, Selvi S. Traditional molasses production from different plants in Anatolia and its ethnobotanical features. *Biological Diversity and Conservation* 2022; 15(1):62-72. <https://doi.org/10.46309/biodicon.2022.1068816>
36. Dogan Y, Ugulu I, Durkan N. Wild edible plants sold in the local markets of Izmir, Turkey. *Pakistan Journal of Botany* 2013; 45(S1):177-184.
37. Cüce M, Sökmen A. In vitro production protocol of *Vaccinium uliginosum* L. (bog bilberry) growing in the Turkish flora. *Turkish Journal of Agriculture and Forestry* 2017; 41:294-304. <https://doi.org/10.3906/tar-1704-19>
38. Karahüseyin S, Sarı A. Plants used in traditional treatment against diarrhea in Turkey. *Istanbul Journal of Pharmacy* 2019; 49(1):33-44. <https://doi.org/10.26650/IstanbulJPharm.2019.404211>
39. Yurt B, Behçet L, Demir N, Yolci MS. Phenolic Composition, Total Phenolic Content, Antioxidant Capacities and Some Physicochemical Features of *Ribes orientale* Desf. Plant Fruits. *European Journal of Science and Technology* 2022; 35:72-75.
40. Karataş ŞM, Öz M, Fidan MS, Baltacı C, Üçüncü O. Gümüşhane yöresinde yetişen *Ribes petraeum* Wulfen (Frenk Üzüümü) bitkisinden uçucu yağının elde edilmesi, kimyasal içerik ve biyolojik aktivitelerinin belirlenmesi. *Gümüşhane Üniversitesi Fen Bilimleri Dergisi* 2022; 2(2):498-511. <https://doi.org/10.17714/gumusfenbil.997171>
41. Erbil N, Murathan ZT, Arslan M, İlçim A. Comparison of Some Biochemical Content and Biological Activities of Gooseberry (*Ribes uva-crispa* L.) and Alpine Currant (*Ribes alpinum* L.). *Anadn Menderes Üniversitesi Ziraat Fakültesi Dergisi* 2021; 18(2):197-203. <https://doi.org/10.25308/aduziraat.907968>
42. Yeşil Y, İnal İ. Traditional knowledge of wild edible plants in Hasankeyf (Batman Province, Turkey). *Acta Societatis Botanicorum Poloniae* 2019; 88(3):3633. <https://doi.org/10.5586/asbp.3633>
43. Karaköse M. An ethnobotanical study of medicinal plants in Güce district, north-eastern Turkey. *Plant Diversity*, 2022 (online publishing). <https://doi.org/10.1016/j.pld.2022.03.005>
44. Gürdal B, Kültür Ş. The edible and miscellaneous useful plants in Marmaris (Southwest Turkey). *Istanbul Journal of Pharmacy* 2014; 44(1):69-78.
45. Bozyel ME, Merdamert Bozyel E. Ethnomedicinal uses of Orchidaceae Taxa



- in Turkish traditional medicine. *International Research Journal of Biological Sciences* 2020; 9(3):52-63.
46. Saraç DU, Özkan ZC, Akbulut S. Ethnobotanic features of Rize/Turkey province. *Biological Diversity and Conservation* 2013; 6(3):57-66.
47. Kadioğlu Z, Çukadar K, Kalkan NN, Vurgun H, Kaya O. Wild edible plant species used in the Ağrı province, eastern Turkey. *Anales del Jardín Botánico de Madrid* 2020; 77(2):e098. <https://doi.org/10.3989/ajbm.2554ISSN-L: 0211-1322>
48. Vatanserver H. Determination of Certain Characteristics of Marmalade and Jam Produced from Types of Hawthorn (*Crataegus tanacetifolia*, *Crataegus monogyna*) Fruit. Afyon Kocatepe University, Institute of Science and Technology, Master Thesis. 2016. Afyon.
49. Şenkardeş İ, Tuzlacı E. Wild Edible Plants of Southern Part of Nevşehir in Turkey. *Marmara Pharmaceutical Journal* 2016; 20:34-43. <https://doi.org/10.12991/mpj.20163435871>
50. Nadiroğlu M, Behçet L. Traditional food uses of wild plants among the Karlova (Bingöl-Turkey). *International Journal of Nature and Life Sciences* 2018; 2(2):57-71.
51. Akbulut S, Özkan ZC, Kalankan G. Some Plants and Their Effects Used in Traditional Treatment of Diseases at Çorum Province in Turkey. *International Journal of Secondary Metabolite* 2017; 4(3):330-339. <https://doi.org/10.21448/ijsm.373823>
52. Çakmakçı R, Erdoğan Ü. Economically important plants which have been used for various purposes of the Ispir region in Turkey. 2nd International Symposium on Traditional Foods From Adriatic to CaucasusAt: Struga-Ohrid/ Macedonia, 25-27 September 2009; Erzurum.
53. Özçelik H. Biodiversity in the Lakes Region (Turkey) and its Agricultural Importance. *Süleyman Demirel University Journal of Natural and Applied Sciences* 2019; 23(2):315-328. <https://doi.org/10.19113/sdufenbed.435174>

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