

The Richness of the Medicinal Plants Of Turkey



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Abstract

In this review, the reasons for plant richness in Turkey are given compiled. In addition, the phytogeographic and geopolitical structure of Turkey and its impact on medical plants have been examined. In the light of this information; the current situation has been evaluated.

Introduction

Turkey is an exceptionally rich country in the sense of flora and fauna. Furthermore, it is a country that is one among the important gene centers of plant diversity in the world. While there are around 13.000 plant taxa in the whole of Europe, the number in Turkey rises to 12.000. Total endemic taxa are about 3.000 in Europe whereas in Turkey the number is about 3.700 and increasing continuously with new systematic studies. The second endemic-rich country in Europe after Turkey is Greece with 820 plants [1-3]. In previous eras, the climate in Turkey was much warmer. That is why there were many different kinds of trees in Anatolia and even in central Asia, which can be seen in tropical and subtropical areas today. During the periods of the Quaternary, these species disappeared from Anatolia. This peninsula was then covered with forests, which contained many more species at that time than at present. These forests disappeared or retreated southwards during the glacial period.

The most important tree of this period was *Liquidambar orientalis* L. This species was local endemic in Anatolia between Marmaris and Fethiye (Muğla) areas. About 10.000 years ago, a moist, mild climate began to influence Anatolia. According to archeological excavations, such as, Çayönü (Diyarbakır), Çatalhöyük (Konya) and Hacilar (Burdur) towns were the most important settlements in Neolithic age. Archeological researches evince that mankind was cultivating a few kinds of barley (*Hordeum spontaneum* C. Koch.), wheat (*Triticum boeoticum* Boiss.), etc. [2,4,5].

In Turkey; where thousands of naturally plant taxa grow, moreover thousands of archeological sites exist, the Neolithic evolution began and which was the motherland of grains and hard-seeded fruits [1,4]. Because of these reasons, Turkey,

which played a significant role on herbal medicine and spice trade, had been a bridge between Asia and Europe throughout the centuries [6].

Historical period of Anatolia and medicinal plants

As Turkey links Asia to Europe, it also contributes to the exchange of species between the two continents. Moreover, since it is at the point of intersection of the phytogeographical regions of Irano-Turana, Euro-Siberia and the Mediterranean, it accommodates all species specific to these regions. In addition to this, because it lies at the intersection of these three phytogeographical regions, and also because of the varieties of geology, topography, soil structure and climatic conditions found here, the coexistence of various different biomes are possible [3,4]. Studying the Hittite, Hellen, Roman and Ottoman periods show what an important role, the flora has played. The spring festivals of Anatolia, like newroz (21 March, Cybele Festivities to celebrate the New Year) and hidrellez (Artemis' birthday, 6 May), are reflections of traditions that were already in place thousands of years ago, are nothing but a celebration of the awakening of nature during spring. And also, in today's botanical literature, the names of certain varieties have originated from the names of Anatolian goods such as, *Teucrium* derives name from *Teucros*; *Artemisia* derives name from *Artemis* [1].

It is known that plants and parts of plants (leaf, flower, root, etc.), which had been used as active pharmaceutical ingredients in Anatolia, were traded since the ancient ages [6-8]. In this period, humans were profiting wild plants as well as they were breeding some important plants in order to obtain drugs. It is registered that, Sumerians did know opium (*Papaver somniferum* L.) [6,7,9]. About 2300B.C. Saffron

(*Crocus sativus* L.) was cultivated in Euphrates river valley by Hittite emperor Sargon [10]. Hippocrates, who is known as the father of medicine, was born in Cos island, lived at 460-377B.C. He had written about 150 literatures, which contain about 400 drugs, were mostly medicinal plant originated, for instance, *Ornithogalum caudatum* (Aiton) Maireden as diuretic; *Veratrum album* L. as emetic; olive oil for wound healing [6,7,9,11]. Pedanius Dioscorides (c.20-c.90) was born in Anavarza near Kozan (Adana, Turkey) had studied especially medicinal plants. He wrote "De Materia Medica" in ancient Greek, which contains over 600 different medicinal plants and their healing specialties, was used as primary source by healers and writers of treatment books for about 1500 years. Most of these plants are Anatolian and Mediterranean originated and still being used at the present time. This writing is the earliest and the most important source as known [3,6-8].

Galenos (129-200) was born in Pergamon (İzmir), had written about 50 books throughout his life. He defined 540 plants and herbal drugs besides formulations. He mentioned that, plant extracts contain not only beneficial compounds but they can also be toxic [6,7,9,12]. The most detailed information on medicinal plants, which used among Anatolia during Seljuk period, was given in the book "El-Müfredat" by Ibn-iBaitar (1197-1248) [6,7]. According to Baytop [7], there are about 500 medical plant taxa traded in Turkey. However, it is known that there are 300-350 medicinal plant taxa sold in domestic trade or export in Turkey [3,8,13].

Result and Discussion

Turkey is a country that produces uses and exports medicinal plant drugs as Mesopotamian civilizations did in the past. However, it cannot be said that the full potential of this rich country is being used in a sufficient level. Nowadays, as the result of the worldwide trend returning back to nature, the demand to medicinal plants is increasing in Turkey as well. The combination with historical richness and plant diversity richness, Turkey is a country that can take an important place on producing of raw

material, active and excipient ingredients of medicinal plants and their production in different pharmaceutical forms. In order to utilize this knowledge, various studies should be held to introduce the medicinal plants and their true and safe usage correctly to the society.

References

1. Torlak H, Vural M, Aytaç Z (2010) Endemic plants of Turkey. Ministry of Culture and Tourism Central Directorate of Revolving Funds. PelinOfset, Ankara, Turkey.
2. Öztürk M, Gücel S, Altundağ E, Mert T, Görk Ç, Görk G, Akçiçek E (2012) An Overview of the Medicinal Plants of Turkey In: Ram JS (ed.), Genetic Resources, Chromosome Engineering and Crop Improvement, CRC Press, USA, pp. 181-206.
3. Coşkun M, GençlerÖzkan AM (2005) Global phytochemistry: The Turkish frame. *Phytochemistry* 66(9): 956-960.
4. Vural M (1996) Vegetation In: Along ancient trade routes Seljuk Caravanserais and landscape in Central Anatolia. Asatekin G, et al. (eds.), Salto nv, Rekem-Lanaken, Belgium.
5. Salamani F, Özkan H, Brandolini A, Schafer-Pregl R, Martin W (2002) Genetics and geography of wild cereal domestication in the Near East. *Nature Reviews Genetics* 3(6): 429-441.
6. Koroğlu A (2014) Medical plants in history and today. *HayatSağlıkSağlıkveSosyalBilimlerDergisi* 12: 30-39.
7. Baytop T (1999) Türkiye'deBitkiler ile Tedavi, GeçmişteveBugün. Nobel Tıp Kitabevleri, İstanbul.
8. Özhatay N, Koyuncu M, Atay S, Byfield A (1997) Türkiye'ninDoğalTıbbiBitkilerininTicaretihakkındaBirÇalışma. DoğalHayatıKorumaDerneği, İstanbul, Türkiye.
9. Ji HF, Li XJ, Zhang HY (2009) Natural products and drug discovery. *EMBO reports*. 10(3): 194-200.
10. Basker D, Negbi M (1983) Uses of saffron. *Economic Botany* 37: 228-246.
11. Heinrich M, Barnes J, Gibbons S, Williamson EM (2004) *Fundamentals of Pharmacognosy and Phytotherapy*, (2nd Edn), Churchill Livingstone, Edinburgh. p.336.
12. Cowen DL, Helfand WH (1990) *Pharmacy: An illustrated History*. Abrams Inc Publishers, New York, USA.
13. Durmaz M (2010) Bergama'lıOkmanhekim Galenos. Bergama KültürveSanatVakfı, İzmir.



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