Journal of Ethnopharmacology 146 (2013) 331–346

Contents lists available at SciVerse ScienceDirect

Journal of Ethnopharmacology

journal homepage: www.elsevier.com/locate/jep

Traditional uses of some medicinal plants in Malatya (Turkey)

Figen Tetik [a], Semsettin Civelek [b], Ugur Cakilcioglu [b,*]

[a] Elazığ Directorate of Health, Elazığ 23100, Turkey
[b] Department of Biology, Sciences Faculty, Fırat University, Elazığ 23119, Turkey

ARTICLE INFO

Article history:
Received 23 August 2012
Received in revised form
20 December 2012
Accepted 27 December 2012
Available online 17 January 2013

Keywords:
Ethnobotany
Medicinal plants
Traditional remedies
Use value
Informant consensus
Factor
Malatya

ABSTRACT

Ethnopharmacological relevance: This study has identified not only the wild plants collected for medical purposes by local people of Malatya Province in the Eastern Anatolia Region, but also the uses and local names of these plants. It tried to provide a source for researchers studying in ethnobotany, pharmacology and chemistry by comparing the information obtained from traditionally used herbs with previous laboratory studies.

Aim of the study: : In Turkey, use of plants for medical purposes has been a tradition. This study aims to identify wild plants collected for medical purposes by the local people of Malatya Province, located in the Eastern Anatolia Region of Turkey, and to establish the uses and local names of these plants.

Materials and methods: A field study had been carried out for a period of approximately 2 years (2010–2011). A questionnaire was administered to the local people, through face-to-face interviews. During this period, 330 vascular plant specimens were collected. Demographic characteristics of participants, names of the local plants, their utilized parts and preparation methods were investigated and recorded. The plant species were collected within the scope of the study; herbarium materials were prepared; and the specimens were entitled. In addition, the relative importance value of the species was determined and informant consensus factor (FIC) was calculated for the medicinal plants included in the study.

Results: In the area of research, 132 individuals who had knowledge about plants were interviewed. Mean age of the respondents was 44 years (in 35–73 years range). 108 plants were found to be used for medical purposes before in the literature analysis of the plants used in our study, while 15 plants were found to have no literature records. The most common families are: Asteraceae (21 plants), Lamiaceae (14 plants), and Rosaceae (12 plants). Local people were recorded to use the aerial parts, branches, flowers, fruits, latex, leaves, matured fruits, peduncle, resin, rhizomes, root bark, roots, seeds and style of the plants. Besides, it was observed that they dried and stored plants in unfavorable seasons in order to use them later. The medicinal uses of *Heracleum antasiaticum* Manden., *Pimpinella olivieroides* Boiss. & Hausskn., *Scandix iberica* Bieb., *Taraxacum hybernum* Stev., *Tripleurospermum transcaucasicum* (Manden.) Pobed., *Cerastium chlorifolium* Fisch. & Mey., *Andrachne telephioides* L., *Euphorbia denticulata* Lam., *Astragalus cephalotes* Banks. & Sol. var. *brevicalyx* Eig., *Geranium ibericum* Cav., *Cyclotrichium nivenum* (Boiss.) Manden. & Scheng., *Salvia syriaca* L., *Papaver arenarium* Bieb., *Dactylis glomerata* L., *Polygonum arenarium* Waldst. & Kit. that we found were used in our study area and recorded for the first time. No information could be obtained regarding the names of eight wild plants that are being used in Malatya. In Turkey, local plant names display differences especially due to ethnographic reasons. The plants used in Malatya are known by the same or different local names in various parts of Anatolia. Our research area also includes people with Kurdish and Zaza ethnic origins. The respondents of the questionnaire are Turkish citizens.

Conclusion: These plants are used in the treatment of many diseases. Comparison of the data obtained in this study from derived the plants growing in Malatya with the experimental data obtained in previous laboratory studies proved ethnobotanical usages to a great extent. Literature review indicated that curative plants that grow in Malatya are used in different parts of the world for the treatment of the same or similar diseases. These plants, used for the treatment of many varying diseases, are abundantly found in this region. Drying enabled local people to use medicinal plants in every seasons of the year. The plant flora of Malatya is threatened by such factors as grazing, expansion of new agricultural lands, and unsustainable picking of plants to generate income. Steps should be taken immediately to ensure the inclusion of relevant flora within conservation designations.

* Corresponding author. Tel.: +90 506 793 66 09; fax: +90 424 22 42795.
E-mail addresses: ftetik12@hotmail.com (F. Tetik), scivelek@firat.edu.tr (S. Civelek), ucakilcioglu@yahoo.com (U. Cakilcioglu).

0378-8741/$ - see front matter © 2013 Elsevier Ireland Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.jep.2012.12.054

1. Introduction

One can argue forever what precise percentage of the world's population use local and traditional medicines. These herbal (or mineral or fungal or occasionally animal) medical products form systems of knowledge and practice that have been transmitted over centuries and which continuously change. However, there can be no doubt that the majority of humans either rely on such products (often due to lack of other alternatives) or that herbal medicines are chosen consciously as an alternative to mainstream medicine. In some cases this knowledge is documented in an extensive historical written body of scholarly and applied writings. Traditions like "Traditional" Chinese, Ayurvedic, Unani, Jamu, Kampo, Iranian, Aztec or various forms of European and Arabic medicine are well known examples. In other regions we rely on the efforts of researchers past and present to document such knowledge and to critically analyze the data (Heinrich, 2010).

Humans beings have always made use of their native flora, not just as a source of nutrition, but also for fuel, medicines, clothing, dwelling, and chemical production. Traditional knowledge of plants and their properties has always been transmitted from generation to generation through the natural course of everyday life (Kargıoğlu et al., 2008).

Documentation of the indigenous knowledge through ethnobotanical studies is important for the conservation and utilization of biological resources (Muthu et al., 2006). Therefore, establishment of the local names and indigenous uses of plants has significant potential societal benefits (Bağcı, 2000).

Turkey has a very extraordinary rich flora and a great knowledge of folkloric medicines, and consequently represents a potential resource for such studies (Hudson et al., 2000). Turkey is one of the richest countries in the world in terms of plant diversity. To date approximately 10,500 plant species have been identified within her borders and 30% of these are endemic (Davis, 1965–1985; Güner et al., 2000). Endemism is one of the most important indicators to evaluate environmental value of an area. In Turkey, the rate of endemism in plant species is relatively high when compared with other European countries (Ugulu et al., 2008). Medical folklore studies in Turkey has continued progressively since the beginning of the Republican period in 1923 (Baytop, 1999).

East Anatolia has a rich flora, due to its variable climate and high number of ecological zones. This diversity in flora provides a rich source of medicinal plants, which has long been utilized by Anatolian cultures, and hence accounts for the accumulation of remarkable medicinal folk knowledge in the region (Özgökçe and Özçelik, 2004).

Majority of the Turkish people living in rural areas traditionally use plants. Generally, they use plants for nourishment and medical purposes. In recent years, traditional use of plants for medical purposes has drawn the attention of researchers in our country as well (Duran, 1998; Düşen and Sümbül, 1999; Malyer et al., 2004; Köse et al., 2005; Satıl et al., 2008, 2011; Uğurlu and Seçmen, 2008).

This study identified not only the wild plants collected for medical purposes by local people of Malatya Province in the Eastern Anatolia Region but also the uses and local names of these plants. In addition, a comparative analysis between previous ethnobotanic and laboratory studies and purposes and ways of uses of these traditionally used plants was attempted.

2. Materials and methods

2.1. Study area

Malatya (Fig. 1) is located in the South-East of Turkey. Malatya belongs to the Iran-Turan Plant Geography Region and falls within the B7 grid square according to the Grid classification system developed by Davis It is at the South-East of the Anatolian Diagonal, which is one of the main endemism centers in Turkey. The province is floristically one of the richest in Turkey (Davis, 1965–1985; Yıldız et al., 2004).

According to the data obtained from the website of Malatya Province Administration (http://www.malatya.bel.tr/, http://www.malatya.gov.tr/), it has been understood from caves located at Ansır (Buzluk) and İnderesi areas that the pre-history of Malatya, which is called the apricot capital of the world, dates back to Paleolithic age. Since there are plateaus and lowlands between high mountains in Malatya, and due to good weather and abundant water sources, Malatya has always been an important settlement center throughout the history.

The surface area of the province is 12,313 km^2, and it is located between 35°54' – 39°03' northern latitudes and 38°45' – 39°08' eastern longitudes. Besides the city center, Malatya has 13 sub-provinces and 495 villages. In addition, there are 53 municipal organizations consisting of one central, 13 sub-provincial, and 39 town municipalities. According to the address-based population census results conducted in 2011, (http://tuikapp.tuik.gov.tr/adnksdagitapp/adnks.zul) total population of Malatya is

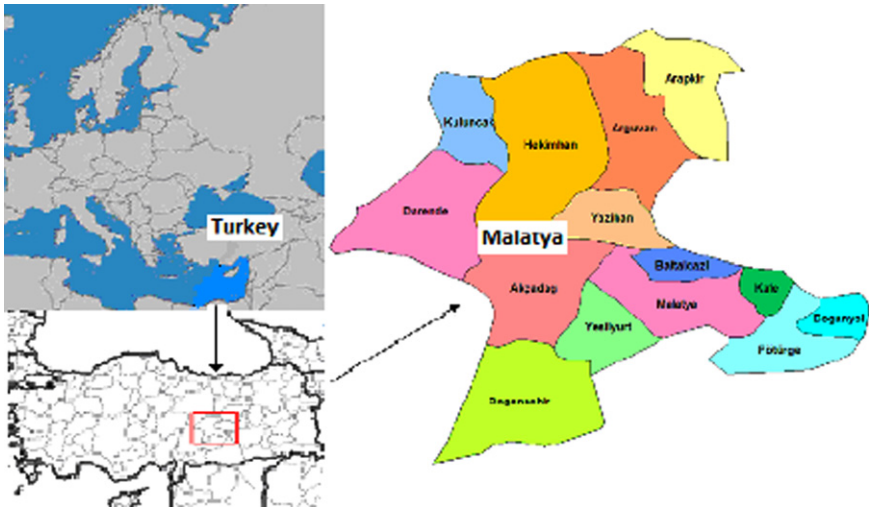

Fig. 1. Geographical location of the study area.