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ETHNOARCHAEOLOGICAL INVESTIGATIONS IN RURAL ANATOLIA

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Ethnobotanical Investigations in Rural Anatolia

Füsun Ertuğ

Ethnobotany is a scientific discipline interested in the relationship between plants and people within their cultural and social contexts. Each culture has used the natural plants within their surroundings, cultivated some of the basic ones, and traded some others to fulfill their various requirements. These plants have been used not solely as food, medicine, shelter, clothing, fuel, and fodder but also as crafts, objects and beliefs that each society generates according to their cultural backgrounds. The plants they gather, the crops they choose to cultivate, and their distinct ways to prepare and use them represents an important part of their cultural identity. That is why studying plant-people interaction is important for anyone who would like to obtain a holistic perspective of a culture.

Anatolia forms a bridge between Europe and Southwest Asia, and has served as a migration route for various groups. Modern Turkey covers an area of 780,580 kilometer square and is located on the junction of three phyto-geographical regions: the Euro-Siberian, Mediterranean, and Irano-Turanian. Many genera and sections have their centre of diversity in Anatolia. Species endemism is high due to climatic and topographic diversity, and the limited extent of Pleistocene glaciations.

Many cultivated plants (crops, fruit trees, ornamentals) and plants that are weeds in Europe, appear to have had their wild origin in Anatolia and the neighboring areas. The earliest inhabitants changed their "hunter-gatherer" mode of subsistence, settled down, and accomplished the "Neolithic Revolution" about 12000 years ago. From earliest Paleolithic period onwards, many inhabitants have been attracted by and utilized and transferred this vegetation and landscape by their specific knowledge. The human factor has probably made a fundamental impact on this diversity. The flora of Turkey contains over 11000 infrageneric taxa (including species, subspecies and varieties), of which 3807 are endemic to Turkey and the Aegean Islands (Güner et al. 2000; Davis 1965-85). These numbers mean that the use of over 3000 species can be recorded only in Turkey. The information related to the use of the endemic and common plants available in Turkey, makes up an important part of the country's cultural heritage.

Until the1990s, most of the field work that had been conducted in Anatolia was related to medicinal plants (Alpınar and Sadıkoğlu 2000; Baytop 1999) and the researchers had focused mainly on medicinally used species and the medical treatments. The pharmacists and pharmacologists were the main investigators, and they were making surveys. An extensive project about traditional medicine was conducted throughout Anatolia between 1986 and 1995 by a Japanese-Turkish joint team. 160 villages in 55 provinces were visited as part of this project. This long-term survey revealed over 2500 remedies, and related 420 species were identified. In a recent evaluation, they proposed that the number of medicinal plants used in Anatolia is obtained from about 800 plant species (Yeşilada and Sezik 2003). From 1923 to 2000, the number of ethnobotanical publications, mostly articles published in folkloric journals or reports, reached up to 670 (Alpınar and Sadıkoğlu 2000). Among all, Turhan Baytop's important book entitled *Türkiye'de Bitkiler ile Tedavi* (1999) is the ultimate outcome of his extensive researches on medicinal plants and their uses in the past and present. Medicinal plants

are given in an encyclopedic form with their local names. In his *Türkçe Bitki Adları Sözlüğü,* Baytop (1994) provides considerable information not only on medicinal but also on edible plants, fodder, fuel, dyes and gums. Evelyn Lyle-Kalças's valuable book (1974) related to the wild edible plants sold in the Aegean markets, and Öztürk and Özçelik's study of useful plants of Eastern Anatolia (1991) were among the exceptions with their regional focus. Although the medicinally focused studies are numerous, reports such as the one made by Fujita et al. (1995) state that 50% of the medicinal remedies recorded in Northern Anatolia in 1990's, had not been reported in Turkish folk medicine previously, which is an indication of the necessity for further, more detailed and systematic ethnobotanical studies.

There was no systematic study covering all potential useful plants found in one specific rural area of Turkey until the 1990s. This means that we have had no idea about how many useful plants were available within a selected rural area, and what is the "plant kit" of a village within their surrounding (catchment area) landscape. In addition, wild plant usage as food, fodder, fuel, and various different uses such as in handicrafts and in symbolic applications were neglected. Understanding the role of these plants and treatments within a local culture was not the main focus of earlier studies. The first study conducted with an ethnoarchaeological approach was completed at Kızılkaya village and its surrounding area along the Melendiz River of Central Anatolia in 1994 and 1995 (Ertuğ 1997: 2000) (Fig. 1). The results of this study and further long-term investigations in other areas indicate that we have to study plant-human interactions as quickly as possible, as the cultural information is rapidly diminishing and transforming.

Agriculture is of key importance in Turkey, both in social and economical terms, but it is declining in its importance. Until the 1950s most of the people in Anatolia were living in rural areas and about 60% were farmers. In 2003 this number decreased to 30% and the share of employment in the agricultural sector

declined from 40% in 1999 to 34% in 2003. Today, about two thirds of the total Turkish population lives in large cities (EU Commission Report 2004). This trend of the transition from an agricultural to a market and service-oriented economy also affects the practice and knowledge of wild plant gathering. When people move to the cities or change their mode of subsistence, their access to wild plants becomes limited, and the knowledge transmission from elders to youngsters also comes to an end.

Gathering-Foraging Tradition and its Implications

Foraging wild plants is often considered a sign of poverty or a response to crop failure, providing supplementary foods during famines. Three long-term ethnobotanical studies conducted in Turkey during 1994-2004, indicated that this common belief is not accurate in Anatolia and probably in other rural Mediterranean communities in the recent past (Ertuğ 2000: 2003; 2004; Ertuğ et al. 2003). In contrast, wild plants constitute an important part of routine diets in the traditional agricultural societies of Anatolia (Fig. 2-5). According to these studies rural people of Anatolia still continue to gather over one hundred wild species only for food, including leaves, shoots, roots, bulbs, stems, seeds and fruit; in addition to all other uses (Table 1).

	Aksaray	Bodrum	Buldan
Total number of natural (wild) useful species	300	355	212
Number of species in the wild food group	101	143	84
Endemics to Turkey used as food & beverages	9	6	6

Table 1. Useful plants and particularly edibles in three areas of Turkey

In the above table, differences of recorded useful species in different areas are due to the length of the study and the area covered by each project. For example the number of useful

species in Buldan are much less than other two areas, because the time that we spent there was much shorter than the other two projects. The most numerous species were recorded in Bodrum, because the area of the project extended from Milas and Mumcular to the whole Bodrum Peninsula, and it was the longest project with a considerable number of volunteers. It seems that in every area, it is possible to record about 250-300 useful plants. Some of these are consumed as food-medicine, and their use overlaps with the medicinal uses.

Plants which are known as "medicinals" constitute the second place in importance and both edibles and medicinal plants are considered to be in the domain of women's knowledge (Ertuğ 2003b). Gathering fresh greens or healing plants for their family is a socially acceptable and also appreciated way of going out for women. In a traditional Muslim society where women have some restrictions and boundaries to leave their houses, this aspect could be an important social force. Collection of wild edible/medicinal plants is an important social occasion, often made in a group, where women do not only collect plants and teach their daughters, but also observe the weeds and crops in the fields, animals in the village herds, developments within and in the close vicinity of their village. By gathering, the women not only provide free and healthy food for their family, but hand them out as presents to their neighbors, relatives living in the town and to their sick and elderly. Thus within the reciprocity rules of local societies, it creates bonds and strengthens their network. Women also sell some of these wild plants and herbs in town markets and they exchange goods as well as information. In many town markets there are special sections called "women markets" where women bring their garden products as well as gathered plant foods to sell (Fig. 2, 3, 5).

In addition to the gender aspect of gathering, we observed two other social aspects which also affect the continuity of the tradition of gathering. The taste of the wild plants is probably an important aspect as the preferred taste is something that is

culturally determined. This is the reason why some plants are liked in some areas, while the same plants are considered as animal fodder in others. For example the bitter taste of Chicory (*çıtlık*), which is a very common plant all around Turkey, is very much appreciated in Central Anatolia, but not the Aegean region Ethnobotanical studies have revealed that people who migrated from a rural area to a town within Turkey or even abroad, came back to gather particular plants, and take them back either fresh, dried or preserved as pickle, jam, or paste. The second aspect can be called 'the cultural identity': Some preparations and receipts can be accepted as unique in one region, thus people who belong to that area would like to eat those dishes in a specific time of the year. Some wild plants play an important role in this identity. For example, in Buldan area local people use the buds, shoots and fruit of two sub-species of terebinth tree (*Pistacia terebinthus/ çitlembik*) in springtime, as additives into their salads and prepare a special filling with fresh pounded almonds (*çağla*), fresh onions, and a sour sauce of plums together with pounded terebinth fruits (Fig. 6). Some aromatic plants can be a key ingredient of a local cuisine, thus being a part of that cultural identity.

Domestication versus Gathering

Ethnobotanical studies indicated that the number of domestic plants cultivated by contemporary farmers is astonishingly limited. In any area, domesticates hardly exceed 70, including food, fuel, fodder, fiber, building, dye and medicinal plants. Plants for food, including cereals, pulses, vegetables, spices and fruit are the largest group within the cultivars. The vegetable plants, although numerous in comparison to other domesticates, are limited to 20-30 varieties. On the other hand, the wild "plant-kit" in every area is much higher. Thousands of years after the "Neolithic revolution", this fact seems a contradiction at first sight. However, all of the studies and observations from various parts of Anatolia make it clear that the agriculturalists do not limit themselves only to domesticates but

also use available species (with a cultural selection) for various needs without going into the trouble of cultivating them. Thus their "plant-kit" is much larger than what they plant. They still use or at least possess the information on hundreds of plants, and only a small number of these are endemics to Turkey (see also Table 1). Most of the wild plants used as food are common at least in the Mediterranean region, and they are also recorded as edible in other areas (e.g., Bonnet and Valles 2002; Lambraki 1997; Pieroni 1999; Savvides 2000; Tardio et al. 2004). Until the last decade there were a very limited number of publications available on this hidden harvest (Scoones et al. 1992). Today, the number of studies shows a steady increase as we face losing this valuable information without even recording it.

A number of questions follow ethnobotanical findings, such as: Why do people still gather so many plants instead of domesticating them? What is the role of these species in their diet, in their health and in their culture? Seasonal patterns of gathering related to other activities such as planting, harvesting, and winter preparations … and other questions related to their use in the past: Can we trace the past uses of these wild plants in the archaeological records? Can we accept our contemporary knowledge as a clue for their past use?

Contributions of Ethnobotanical Investigations to Archaeobotanical Studies

Recent archaeobotanical studies provide some positive answers to the above questions. Indeed, we can trace the past plant-human interactions increasingly through modern archaeobotanical (including pollen, phytolith, charcoal, macro and micro analysis), coprolites, and trace analysis techniques. Systematic sampling with flotation, pollen, and phytolith investigations are providing data on many plant species; trace analysis on tools and materials are presenting ways of preparation and uses; and when available, coprolites provide important clues to diet. Of course all these techniques have their own limitations

as well as strengths. The scope and the approaches of the specialists are also important for investigations and further interpretations. Analyses that focus only on remains of seeds and fruits –common practice in temperate regions where agricultural systems are largely seed-based—may miss some of the most important clues, especially from foods such as 'roots', inner bark, stems, leaves, as well as from the largely vegetative parts of plants commonly used as sources of materials (Hather and Mason 2002: 2). However, evidence requires some comparative material for better interpretations and ethnographical analogies of processes. For example, Arum species (*yılanyastığı, livik*) have some poisonous properties, yet, both their tubers and the leaves can be eaten after drying and/or boiling (Grieve 1996: 236; Baytop 1994: 287). Without knowing when and how they were used, we cannot investigate the subsistence or the economy of a past society. Recent ethnobotanical studies, as well as the new trends in archaeobotany, have changed our previous concepts and definitions of "agrarian" societies. The terms such as "hunter-gatherer" and "agriculturalist" were once used by the archaeologists as opposed states, and implicitly excluded transitional states. It is very important to realize that hunter-gatherers may undertake agricultural practices, and agriculturalists may well persist in gathering, therefore these should not be seen as mutually incompatible (Hather and Mason 2002: 4).

Ethnobotanical investigations not only provide relevant reference collections for identifications, but also indicate some of the ways that each species can be useful, for example for thatching, for fodder (fig. 7), for fuel, for food and/or medicine. Furthermore, these studies present clues about the possible timing of uses as well as the harvesting and processing techniques of various plant parts. In a recent study on Anatolian plaiting crafts, (basketry, cordage, mat making and brooms) more than 90 species of plants were listed, as a resource material for these crafts (Ertuğ 2006). Various techniques of plaiting were also underlined in the same study (Fig. 8). If we can integrate all this information with archaeobotanical investigations, we

could create a clearer picture of the daily life, the subsistence, the know-how and social interactions of the past populations.

Plenty of ethnobotanical information has been gathered on most cultivated and wild plants and plant-based objects from the villages and towns of Anatolia. Hundreds of plant samples collected in various stages and specimens were identified by the taxonomists, and the dietary values of some were analyzed by nutritionists. Accessibility of plants was checked in varying environmental conditions around the studied settlements. Social and cultural factors were studied in the studied settlement and in neighboring communities. Processes, tools and techniques, such as the tools and methods of harvesting, detoxifying, and preparing the plants as food, medicine, dye or fibers were studied. However, we still do not have a common database for all information related to useful plants or a comparative database for the cultivated and wild plants which are recovered in all the archaeological settlements of Anatolia. A relational database of archaeobotanical, historical and ethnobotanical data could be an ideal tool to investigate multiple lines of evidence such as a project recently started in Lefkandi, Greece (Livarda and Kotzamani 2006).

Challenges and Possible Solutions

Ethnobotanical investigations indicate that rural people of Anatolia consider wild plants as an essential part of their health and cultural distinctiveness, valuing their taste, culinary properties and the social elements of collection practices. This long-established heritage is in a transformative stage and is in decline due to rapid modernization, migration to towns and changing social relations.

Systematically studying this important folk knowledge and cultural heritage related to plants becomes a real challenge. It is a race against time not only because the knowledge is declining rapidly, but also because the available researchers are very

limited in number for recording all useful plants of this large country and of this rich cultural heritage.

Ethnobotany is a new field, and there is no formal education in Turkey, except a few classes on medicinal plants at Pharmacy and Pharmacognosy departments. The Turkish Academy of Sciences (TUBA) has accepted ethnobotanical knowledge as a part of Cultural Heritage, and included it in the Cultural Inventory Project of Turkey (TUBA-TÜKSEK) in 2002. A pilot project was conducted in Buldan during 2002-2004 (Ertuğ et al. 2003; Ertuğ et al. 2004). From 2002 on, ethnobotanical workshops have been organized by TUBA for training young scientists from various disciplines. As a result of these workshops four additional ethnobotanical studies in various areas of Turkey are currently in progress. A national data base will cover all gathered data from the pilot and ongoing projects of ethnobotany, as well as archaeology, local architecture, oral history and ethnography. This documentation and inventory will be very helpful but not sufficient, as further studies are needed with the support of universities, governmental and private institutions.

References

Alpınar, K. and N. Sadıkoğlu

2000 "About the Turkish ethnobotanical research archives since 1928." In *New Trends and Methods in Natural Products' Research, Proceedings of XIIth International Symposium of Plant Originated Crude Drugs, Ankara, May 20-22, 1998,* edited by İ. Çalış, T. Ersöz, and A.A. Başaran. Ankara: Tübitak, pp. 273-74.

Baytop, T.

1994 *Türkçe Bitki Adları Sözlüğü. Atatürk Kültür.* Ankara: Atatürk Dil ve Tarih Yüksek Kurumu.

1999 *Türkiyede Bitkiler ile Tedavi: Geçmiste ve Bugün (Therapy with Medicinal Plants in Turkey*). Istanbul: Nobel Yayınevi.

Bonnet, M. A. and J. Valles

2002 "Use of non-crop vascular plants in Montseny biosphere reserve (Catalonia, Iberian Peninsula)." *International Journal of Food Sciences and Nutrition* 53: 225-248.

Davis, P.H. ed.

1965-1985 *Flora of Turkey and the East Aegean Islands*. Vols 1-9. Edinburgh: Edinburgh University Press.

Ertuğ, F.

1997 *An Ethnoarchaeological Study of Subsistence and Plant Gathering in Central Anatolia*. Ph.D. dissertation, Washington University, St.Louis.

2000 "An ethnobotanical study in Central Anatolia (Turkey)." *Economic Botany* 54/2: 155-182.

2003a "An Ethnobotanical Research in Friday Markets of Bodrum (Mugla-Turkey)." *DELPINOA* 45: 167-172.

2003b "Gendering the tradition of plant gathering in Central Anatolia (Turkey)." In *Women and Plants: Gender Relations in Biodiversity Management and Conservation*, edited by P. L. Howard, London: Zed Books, pp. 183-196,

2004 "Wild edible plants of the Bodrum area (Muğla, Turkey)." *Turkish Journal of Botany* 28: 161-174.

2006 "An overview of the plaited crafts of Turkey (Anatolia and Thrace)." In *Proceedings of the IVth Internatiobal Congress of Ethnobotany, 21-26 August 2005 Yeditepe University*, edited by F. Ertuğ. Istanbul: Ege Yayınları, pp. 297-306.

Ertuğ, F. G. Tümen, and A. Çelik

2003 "TÜBA-TÜKSEK Buldan (Denizli) etnobotanik alan araştırma raporu 2002 yılı çalışması (Turkish Academy of Science Cultural Inventory Research: Ethnobotanical Study in Buldan-Denizli)." *Buldan Türkiye Bilimler Akademisi TÜBA-TÜKSEK Pilot Bölge Çalışmaları* 2: 76-91.

Ertuğ, F. G. Tümen, A. Çelik, and T. Dirmenci

2004 "TÜBA-TÜKSEK Buldan (Denizli) etnobotanik alan araştırma raporu 2003 yılı çalışması." *Türkiye Bilimler Akademisi TÜBA Kültür Envanteri Dergisi* 2: 187-218.

EU Commission Report 2004. Regular Report on Turkey's Progress Towards Accession. Commission of the European Communities, 06.10.2004, Brussels (http://europa.eu.int/)

Fujita, T., E. Sezik, M. Tabata, E. Yesilada, G. Honda, T. Tanaka, and Y. Takaishi.
1995 "Traditional medicine in Turkey VII. Folk medicine in middle and west Black Sea Regions." *Economic Botany* 49: 406-422.

Grieve, M.
1996 *A Modern Herbal*. Kent: Barnes and Noble Inc.

Güner A., N .Özhatay, T. Ekim, K.H.C. Başer, eds.
2000 *Flora of Turkey and the East Aegean Islands*. Vol. 11. Edinburgh: Edinburgh University Press.

Hather, J.G. and S.L.R. Mason
2002 "Introduction: some issues in the archaeobotany of hunter-gatherers." In *Hunter-Gatherer Archaeobotany*, edited by S.L.R. Mason and J.G. Hather. London: University College London, Institute of Archaeobotany, pp. 1-14.

Lambraki, M.
1997 Τα Χορτα (Herbs). Athens: Trohalia Printing House.

Livarda, A. and G. Kotzamani
2006 "Plant Lore in 'Dark Age' Greece: Archaeobotanical evidence from Lefkandi, Euboea, literal sources and traditional knowledge combined." In *Proceedings of the IVth Internatiobal Congress of Ethnobotany, 21-26 August 2005, Yeditepe University*, edited by F. Ertuğ. Istanbul: Ege Yayınları, pp. 435-437.

Lyele-Kalças, E.
1992 *Food from the Fields: Edible Wild Plants of Aegean Turkey*. Izmir: Bilgehan Matbaa.

Öztürk, M. and H. Özçelik.
1991 *Doğu Anadolu'nun Faydalı Bitkileri*. Ankara: SİSKAV.

Pieroni, A.
1999 "Gathered Wild Food Plants in the Upper Valley of the Serchio River (Garfagnana), Central Italy." *Economic Botany* 53/3: 327-341.

Savvides L.
2000 *Edible Wild Plants of the Cyprus Flora*. Nicosia: Private Publication.

Scoones, I., M. Melnyk, and J. N.Pretty
1992 *The Hidden Harvest: Wild Foods and Agricultural Systems. A Literature Review and Annotated Bibliography*. London: .International Institute for Environment and Development, SIDA& WWF

Tardio, J., H.Pascual, and R. Morales
2004 *Alimentos silvestres de Madrid*. Madrid: Ediciones La Libreria.

Yeşilada, E. and E. Sezik
2003 "A survey on the traditional medicine in Turkey: semi-quantitative evaluation of the results." *Recent Progress in Medicinal Plants, Ethnomedicine and Pharmacognosy II* (Vol. 7): 389-412, edited by V. K. Singh, J. N. Govil, S. Hashmi and G. Singh. Houston: Science and Technology Publication.

Fig. 1. *A group of women collecting plants, Kızılkaya village, Aksaray 1995*

Fig. 2. *Edible plants seller in Buldan market, Denizli 2003*

Fig. 3. *A woman selling kenker (Scolymus hispanicus) in Bodrum market, Muğla 2000*

Fig. 4. *Gathering yimlik/yemlik (Tragopogon sp.) in Seydişehir, Konya 2007*

Fig. 5. *Turp otu (Raphanus raphanistrum) seller in Ayvalık market 2000*

Fig. 6. *Pounding terebinth buds (bedren) and fresh almonds (çağla) for special Buldan dish, Yeniçam village, Buldan, Denizli 2003*

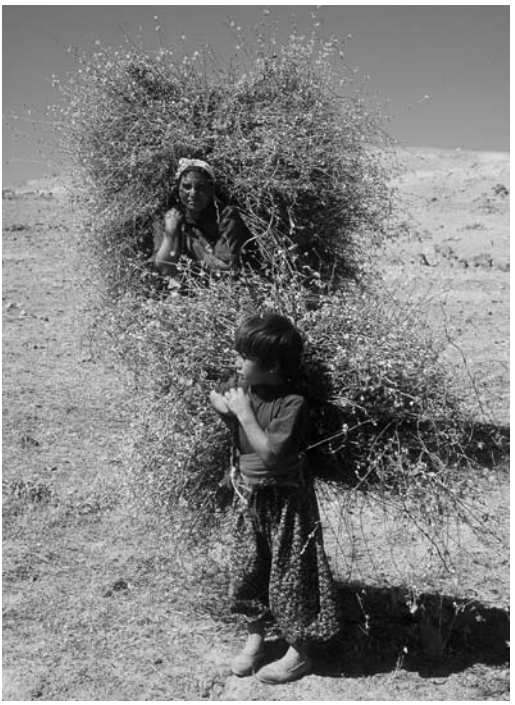

Fig. 7. *Mother and daughter carrying karaavlık (Chondrilla juncea) to fed their animals, Kömürcü, Niğde 1999*

Fig. 8. *Plaiting a reed mat from kamış (Phragmites australis) in Akhisar, Aksaray 1994.*

All photographs were taken by F. Ertuğ.

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