SOME MEDICINAL PLANTS GATHERED FROM NATURAL AREAS

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Abstract

The Black Sea Region located in temperate climate zone of Turkey has quite rich flora and vegetation. In this vegetation, there are many medicinal plants that consumed and collected from the nature by local people. The most common ones are; *Trachystemon orientalis*, *Ornithogalum sigmoideum/O. orthopyllum*, *Oenanthe pimpinelloides*, *Smilax aspera, S. excelsa* and *Urtica dioica*. The plant mixture is defined as "yazı pancarı" by local people who contain several different plant species. The present study gathered data from public market surveys about consumed parts of plants, medicinal properties of them, encountered problems of collectors and consumers, future threats awaiting these plants, the issues to be considered in terms of consumption of some of these gathered plants from nature in villages of Samsun province and districts.

Key words: *Trachystemon orientalis*, *Ornithogalum. sigmoideum*, *Smilax aspera*, medicinal properties

The plants collected from Samsun province and consumed by local people are quite different from the ones collected from the other Black Sea coastal provinces. Medicinal characteristics of these plants passed traditionally from one generation to another and reached to today. In previous researches based on such information, it was reported that *Plantago major* and *P. lanceolata*, *Urtica dioica*, *Smilax excelsa*, *Malva slyvestris* were used for eczema, stomach and kidney diseases, asthma, coughing, diabetes, wound healing and various other purposes (Tuzlacı and Tolon, 2000; Tuzlacı and Aymaz, 2001), *Plantago intermedia* and *Trachystemon orientalis* had antimicrobial characteristics (Bown, 2002; Uzun *et al*, 2004), *Ornithogalum* species were used as appetizer, emetic, laxative (Sargın et al, 2013), hearth spasm reliever and hearth regulator (Thaler et al, 2009).

MATERIAL AND METHOD

The data gathered in this study were composed of partial data of an ongoing research initiated in 2007 about botanical and local names, collection times, collection methods, consumption quantities and consumption methods of the medicinal plants collected from the nature in central and town villages of Samsun province of Eastern Black Sea region and brought to local bazaars. Since the first section of resultant data and detailed information about material and methods were provided in a paper entitled as "The concumption of some plants gathered from nature in Eastern Black Sea Region" published in proceedings of VIII Field Crops Congress held on 19-22 November 2009 in Turkey, these information were not provided in detail in this paper.

RESULTS AND DISCUSSIONS

Survey and observations revealed that plants were collected and consumed based on climate conditions between the first week of March and solstice on 21 June, plants were collected out of settlement sites mostly from pasture and meadows, forest sites, beneath hazelnut trees, fallow lands, winter plowed lands to be sown in spring. Face-to-face meeting with collectors and consumers revealed that plant consumption modes were generally similar to each other, almost all of them were consumed after boiling and filtering the extract (some consumers prefer steaming), some were consumed through frying with onion and egg, *Trachystemon orientalis, Oenanthe pimpinelloides*, *Ornithogalum* and *Smilax* species were mostly pickled (Arslanoğlu and Yalçın, 2009) and these pickles were sometimes consumed in winter as "fried pickle". Interviews also revealed that local people consume nettle soup with corn flour or farina at least once in spring of each year just because of health benefits they believe in (Anonymous, 2015). Some information about the most common plant species collected from the

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nature, brought to local bazaars in Samsun province and consumed by the local people are provided below:

***Trachystemon orientalis* L. (*Boraginaceae*)**

Local names: Kadırayak, Kaldirik, Zılbıt, Deve pancarı, Ispıt, Acı Hodan, Doğu Hodanı, Tomara,

Plant characteristics: Flowery, shoots can reach to 30–40 cm heights, with dark rhizomes underground, perennial herbaceous plant. It commonly grows in humid, shadow and semi-shadow sites with high organic matter contents. It propagates with rhizomes.

Composition: Chemical composition includes tannin, essential oils, nitrate salts, mucilage, saponin and resin.

Utilized plant sections and type of consumption: Rhizomes and flowery fresh shoots, fresh leaves collected in February-March are fired with onion and egg and consumed as a spicy dish or used as patty base. Leaves can be used for stuffing. In May-June, rhizome and shoots become fibrous and mucilage content increases, therefore these sections are not consumed in these months. Only fresh petioles are collected and pickled (Baytop, 1999; Özbucak et al, 2006; Arslanoğlu and Yalçın, 2009; Anonymous, 2015).

Effects: Diuretic, blood purifier, reliever, mucolytic, fever reliever and digestion facilitator (Baytop, 1999; Arslanoğlu and Yalçın, 2009).

Ornithogalum sigmoideum Freyn & Sint./***O. orthopyllum*** Ten.

Local names: Sakarca, Akyýldýz, Çiđdem, Tükrük otu

Other species: *Ornithogalum comosum* L., *Ornithogalum lanceolatum*, *Ornithogalum latifolium* Baker, *Ornithogalum pyrenaicum* L., *Ornithogalum sibthorbii* W. Greuter

Plant characteristics: Plant height is around 15-20 cm, perennial herbaceous plant with white flowers. It commonly grows in barren soils without soil tillage, beneath hazelnut trees and natural pastures. Flowery bulbs are collected for 2 months starting from February. It propagates with bulbs and seeds.

Composition: Bulbs contain convallatoxin, other glucosides and saponin (Baytop, 1999; Thaler et al, 2009).

Utilized plant sections and type of consumption: In March-April, plant is collected from the emergence of leaves aboveground to the end of flowering. Leafy and flowery bulbs are consumed as vegetable. Fresh bulbs and above soil sections are also fried, used as salad or canned food (Arslanođlu and Yalçýn, 2009; Kızılarslan and Özhatay, 2012).

Effects: Appetizer, nerve tonic, laxative (Sargın et al, 2013), hearth spams relieving and hearth regulator and protector (Thaler et al, 2009), emetic and suppurate (Baytop, 1999).

***Oenanthe pimpinelloides* L.** (Apiaceae)

Local names: Kazayağı, Gazyak, Deli maydanoz

Plant characteristics: It is a perennial herbaceous plant. Leaves are similar to parsley, but darker and deeper bladed. White flowers are in umbel form and located at branch tips. It usually grows in barren sites and underneath hazelnut trees. It propagates with seeds.

Composition: It contains cymene, germacrene and β-caryophyllene essential oil components (Baldini et al, 2009).

Utilized plant sections and type of consumption: The plant is collected and consumed by local people in February-March-April until bolting period through cutting from root canopy. Collected leafy stem is boiled and pickled, salad is made either from fresh or boiled leaves, it is also served with yoghurt or fired. It is also used as patty base with green onion and skim-milk cheese. The plant is also roasted with or without tomato paste and egg (Arslanoğlu and Yalçın, 2009; Baldini et al, 2009).

Effects: It is known by local people as appetizer and digestive system stimulant (Anonymous, 2015).

***Smilax aspera L., S. excelsa* L.** (Smilacaceae)

Local names: Kırçan, Dikenucu, Melevcan, Özdikeni, Gıcır

Plant characteristics: Plant height can reach to 15-20 m, it is a perennial, thorny and climbing plant. It usually grows along field borders, within shrubs along the land borders, macquis sites and forest sides. It is propagated with the seeds extracted from ripened red fruits in autumn, with shoot scions taken in spring or root shoots.

Composition: Chemical composition includes phenylpropanolide glucosides, anthocyanins, flavonoid glucosides and steroidal saponin (Dall'Acqua et al, 2008; Bown, 2002).

Utilized plant sections and type of consumption: Reddish shoots developed over branch tips are collected from Samsun and surroundings in March-April-May until lignification of the shoots. These young shoot tips are boiled, fried with anion, mixed with yoghurt and consumed as salad. These shoot tips are also pickled or canned for later uses (Arslanoğlu and Yalçın, 2009; Anonymous, 2015).

Effects: It is used in treatment of toe cracks (Tuzlacı and Tolon, 2000). The plant has blood

purifying and urine increasing (Anonymous, 2015), wound healing, mucilage, diaphoretic, intestinal disease and cough relieving, anti-inflammatory, anti-rheumatic, anti-spastic and fever reducer effects (Dall'Acqua et al, 2008).

Urtica dioica (Urticaceae)

Other species: *Urtica pilulifera* L., *Urtica urens* L.

Local names: Büyük Isırgan Otu, Isırgan, Sırgan, Kupriva, Gidişken

Plant characteristics: Based on growing conditions, plants can reach to heights of 30-150 cm. It is a perennial herbaceous plant. It has serrate leaves with mordant hairs. The plant has quite strong root system. Small flowers with cream color blossom at beneath the leaves at the beginning of summer. It is propagated with seeds and rhizomes. The plant mostly grows in forest shrubs, rocky and stony sites and gardens, underneath hazelnut trees and almost everywhere.

Composition: Plant leaves contain a glucoside called urticosite, potassium salts, calcium nitrate, organic acids, histamine and acetylcholine (mordant substance), vitamin C (Baytop, 1999), flavone, iron, betasitosterin, sterylglucoside, lignin and seeds contain mucilage, proteins, fixed oil, carotenoid and roots contain tannin, sterolen, lignin (Eröztürk, 2004).

Utilized plant sections and type of consumption: Generally leaves and shoots are used. Plants are collected from Samsun and surroundings starting from a period of 2-4 leaved stage in spring until flowering period (Arslanoğlu and Yalçın, 2009). The soup made with young shoots and corn flour is consumed at least once in every year by local people. It is also boiled, spiced and puree is mixed with yoghurt, consumed as salad, used as patty base (Anonymous, 2015).

Effects: The plants is known with their health benefits in kidney diseases, prevention of some cancer types, respiratory track diseases, prevention of atrichia, paralysis, tension, stomach ache, rheumatism, fungal infections, osteoporosis, eczema and eczema-induced pains, gynecological diseases, kidney stones, digestive and hemorrhoid. It was also stated by collectors and consumers that plants improved immune system, stimulated digestive system and should definitely be consumed in season for rhemutic pains (Anonymous, 2009 and 2015).

Encountered and expected problems:

Although plant species grows in places as specified above, *Urtica dioica* L. and *Oenanthe pimpinelloides* L. are commonly encountered at road sides and wastewater sites. These medicinal plants have quite high market values and there aren't any costs of production for them. Since collectors consider only the quantities of plant as much as possible, sometimes plants may come from unclean sites to bazaars.

According to hearsay knowledge, *Urtica dioica* L. species are good for some serious diseases like cancer. However, there is no information about which parts of the plant are good for which cancer of diseases, about how and how much and when to use, about patients to use these plants without any doctor consultations. Such unconscious uses may then result in several undesired/unexpected cases.

Compared to season vegetables, these medicinal plants quite higher market prices (for instance, while spinach is 2.0 TL/kg, *Trachystemon orientalis* and *Ornithogalum* is 5TL/kg). Some medicinal plants are collected while they are flowery with bulb and rhizomes. *Ornithogalum* species are geophyte and they are commonly collected with bulbs when the flower buds are seen. In this way, two propagation materials are consumed together. With these uncontrolled excessive collections, plants are endangered continuously day by day. Another problem is encountered in *Trachystemon orientalis* collected with rhizomes and flowery shoots. The plant propagated with rhizomes and young rhizomes are collected every year. The price of both species are almost twice as much when the first brought to bazaars in mid-February or early March. Thus, collectors collect the plants without leaving any material for propagation. Such cases ultimately end up with significant distortions in nature for *Trachystemon orientalis* and *Ornithogalum* species.

CONCLUSION

It is quite significant for consumer health and collector income that plants should be collected from clean sites in a controlled fashion as to allow plants to keep their existence. Besides reducing the pressure over natural flora, works should be initiated for standard and sustainable production and culture of these plants to market these valuable plants to other regions apart from local bazaars. Researches already initiated on propagation methods, cultural techniques, proper collection and processing methods for the medicinal plants mentioned in this study.

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