



The Ethnobotanical Usage of Some East Anatolian (Turkey) *Allium* L. Species

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Abstract

The materials of this study comprise the plants collected from 1999-2014, from the cities: Ağrı, Bitlis, Hakkâri, Muş, Tunceli and Van in B10, B9, B8, B7, C10, C9 squares according to grid square system in Flora of Turkey. Most commonly used *Allium* species in the region are: *Allium akaka* S. G. Gmel. Ex Schult. & Schult. f., *Allium atrovioleaceum* Boiss., *Allium aucheri* Boiss., *Allium calocephalum* Wendelbo, *Allium kharputense* Freyn & Sint., *Allium noeanum* Reut. ex Regel, *Allium pseudoampeloprasum* Miscz. ex Grossh., *Allium rhetoreanum* Nab., *Allium schoenoprasum* L., *Allium shatakiense* Rech. f., *Allium shirnakiense* L.Behçet & Rüstemoğlu, *Allium szovitsii* Regel, *Allium tuncelianum* (Kolman) Özhatay, B. Mathew & Şiraneci, *Allium vineale* L.. Local women collect these species from natural habitats for their own needs and to sell at certain public markets to make contribution to the family budget. Green leaves from fresh plants and the bulbs after the completion of the maturity stage are collected and consumed. Beside daily edible use, fresh leaves of *Allium* species are the main participant of the famous “herby cheese”. Dried leaves are cooked in various meals in winter time. *A. tuncelianum* is planted in Tunceli and marketed. *A. rhetoreanum* is planted in gardens in Hakkâri, its fresh leaves are daily consumed as vegetable. In this study 14 species of the genus *Allium* was given with images in their natural habitats, also images of the collection, drying and marketing processes were given.

Keywords: Turkey, East Anatolia, *Allium*, Etnobotanic

Doğu Anadolu'da (Türkiye) Bulunan Bazı *Allium* L. Türlerinin Etnobotanik Kullanımı

Özet

Bu çalışmanın materyali 1999-2014 yılları arasında Türkiye florası kareleme sistemine göre B7, B8, B9, B10, C9, C10 karelerinde bulunan Ağrı, Bitlis, Hakkâri, Muş, Tunceli ve Van illerinde yaygın olarak tüketilen *Allium* türleri oluşturmaktadır. Bu türler; *Allium akaka* S. G. Gmel. Ex Schult. & Schult. f., *Allium atrovioleaceum* Boiss., *Allium aucheri* Boiss., *Allium calocephalum* Wendelbo, *Allium kharputense* Freyn & Sint., *Allium noeanum* Reut. ex Regel, *Allium pseudoampeloprasum* Miscz. ex Grossh., *Allium rhetoreanum* Nab., *Allium schoenoprasum* L., *Allium shatakiense* Rech. f., *Allium shirnakiense* L.Behçet & Rüstemoğlu, *Allium szovitsii* Regel, *Allium tuncelianum* (Kolman) Özhatay, B. Mathew & Şiraneci, *Allium vineale* L. den oluşmaktadır. Yerel kadınlar doğal ortamlarında topladıkları bu türlerin bir kısmını kendi ihtiyaçları için kullanılırken, bir kısmını da Halk pazarında satarak ailelerinin bütçelerine maddi katkıda bulunurlar. Taze yapraklar ve soğanlar belli işlemlerden geçirilerek tüketilirler. Bununla birlikte Vanın meşhur Otlu peynirine taze yaprakları salamuradan sonra konulur. Kurutulan yapraklar kış aylarında yemeklere tatlandırıcı olarak katılır. *A. tuncelianum* türünün üretimi yapılmakta ve marketlerde soğanları satılmaktadır. *A. rhetoreanum* türü Hakkârinin köylerinde bahçelere ekilerek yetiştiriciliği yapılmakta olup günlük taze sebze olarak yemeklerde kullanılmaktadır. Bu çalışmada *Allium* cinsine ait 14 türün doğal ortamlarında ve halk parazından çekilmiş fotoğraflarının yanısıra marketlerde tüketimiyle alakalı fotoğrafları ile birlikte kullanım alışkanlığı ve şekli hakkında bilgi verilecektir.

Anahtar kelimeler: Türkiye, Doğu Anadolu, *Allium*, Etnobotanik

1. INTRODUCTION

Ethnobotanic term was started to using first in 1986 by a biology professor his names was W. Harshberger, he created this term for observing local public's research of natural history so, simply Ethnobotanic is defined as 'plants usage from endemic population. But in our time Ethnobotanic term is focused on not only usage of plants, Ethnobotanic is interested in what for plants are using and their growing, also observing these plants growing conditions topics at the same time [1]. Shortly Ethnobotanic is defined as investigation about human-plant relationship that, at the same time explains opposite interaction, usage, production and drain, these was occurred as the result of this relationship [2].

Ethnobotanic studies are traditional classifications in the public, and also works about plant's management and usage. Ethnobotanic studies not only record about interaction going on between human and plants for centuries, but also Ethnobotanic studies facilitate about usage occurring results of this interaction in protecting biological variety and developing some people whose lives on surrounding countryside [3]. Human and plants are always in relationship. Plants are generally used as food and medicine, and also these plants is used as fuel, construction supply, paint, trinket etc. intents.

First human being, pictures of plants they use, treated to the cave walls, horns, tablets and then to the papyrus. This knowledges on the earth gives us important opinions about human's plant usage tradition. Various beneficial taxons which were picked up from nature, was started to use in agriculture by taking in culture. In Southeast Anatolia was first farming area in the earth, now that was known in public some plant drogs were used in medicine production like aniseed, peppermint, barley malt, licorice etc. which was used also in cures [4].

Anatolian people's usage of savage plants were dated back to the very old times. This is a document that some plant names in the recipe on the medical tablets in the Hittite Empire age. In this time period as benefitted by savage plants, some important medical plants was growed for gaining drogs. Additionally it was known that in the the Hittite Empire and Byzantine Empire age some drogs from Anatolia was sailed to the other lands. At the rural areas generally uses growing plant at near surroundings for preparing medicine [5].

Our land has very rich flora because of our land's geographical position and our land's being under influence of diffent climates. In our land 167 family, 1320 genus, 9996 species and 11707 taxons grows [6]. In Turkey plant species number are increasing every day with new recognized species by the result of new studies. Our land has richest flora by the endemic species 3649 taxons[6]. Meaning of endemic plant number the richest land is Greece, even in Greece this value in between 800-1000. Considered that this variety it can be understood that our country is very rich and intersting land in the terms of plants species[7].

In Turkey first ethnobotanic studies major in medical plants just as in case of all over the world, in our country too. In Turkey issues about public medicine knowledges had observed. This knowledges was seen that featured in surveys about folklore, issue about herb seller, botanical studies, chemical studies and surveys about public medicines. In Turkey investigations are very important about public medicines. Together with Turkey's flora richness, Turkey has a public medicine cultures which effected from rather rich and different civilations [8]. Some savage plants is used as food and used in medicine industry. About this savage plants, if we will know what names they called in public, which disease they heal, why these are used, so it will be able to a source for all science [9].

Turkey's pullic medicine inventory is not enough. For some countries like Turkey which is fastly in urbanization process these counties and very high deggree of moves city from village, delay at the researchs of public medicines is very important. This is important because villiges are getting empty by reason of moves to cities, consequently knowledges of folclore is vanishing. Using plants as medicine is a knowledge of folclore too, so these are getting lost at the same time. People who moves to the cities are not find some plants they used as medicine. And also they reach very simply to doctors and pharmacists, after a little time period so they forget knowledges about these plants.

In Turkey *Allium* genus is represented by 179 species [6]. On the earth there are more over 800 species depending on *Allium* genus. Species that featured in *Allium* genus are splits some parts between each other. *Allium* genus includes known species like onion, garlic and leek. Some species is joining in the group whose head smells like onion, generally in appeared on Northern hemisphere (specially on area between Europe's east and Asia's west) [11]. In Turkey, traditionally consumed *Allium* genus like kormen, rock garlic, savage onion, savage garlic, dog onion and shepherd garlic are also used as food or used in treating aim [12].

Allium akaka S.G. Gmelin; all plant simply added in cheese [13]. Plant's leaves and knob used instead of onion in Erzurum and Van areas [5]. Additionally this plant kept as winter food and used instead of fresh onion and then added in cheese [14]. *Allium ampeloprasum* L.; Plant's root boiled in water then it's water used as drink [15]. Young leaves of this plant used as garlic [5]. Fresh leaves of this plant can be eaten [16, 17, 18]. With it's onion all plant picked up. Plant cleared completely then it added in salad as green onion [19, 20]. Plant's onion and leaves used instead of garlic. When plant's leaves are fresh, they cooked in boiling water then and then they used in a meal with yoghurt [19, 20]. Bees are benefitted from this plant's pollens and nectars. *Allium scorodoprasum* L. subsp. *rotundum* (L.) Stearn; all plant simply added in cheese [23]. Plant's knob is used by adding in yoghurt, bread, and cheese as food for appetizing, lowering tension and anticeptical [13]. Plant's onion and leaves used for giving force and feeder by frying [15]. And also used in producing herb cheese, drained as vegetable and spice[14]. Plant's fresh leaves are eaten [16]. This plant is not eaten by animals [17]. Fresh leaves joins in meals. Flower parts used in decoration [24].

2. MATERIAL and METHOD

The materials of this study comprise the plants collected from 1999-2014, from the cities: Ağrı, Bitlis, Hakkâri, Muş, Tunceli and Van in B10, B9, B8, B7, C10, C9 squares according to grid square system in Flora of Turkey. (Figure 1.) At made studies in these cities and surroundings and depended on knowledges that was taken from folk bazaar and people living in rural area, knowledges about which *Allium* species used as food in routine life that was collected. Some plant photographs was taken from folk bazaar. Plant's traditional names was recorded by asking to the public [25]. With these collected knowledges, plant's populations was observed in areas by reaching plant's growing habitats. At results of this observes, macro and micro detailed photos of this species was taken. Plant samples are gained by picked up that pressed by observing the rules of herbarium and plant's onion samples was taken. Then plant's locality knowledges and population observes was recorded carefully. Collected samples are keeping in Mehmet Fırat's collection for making herbarium in the future. Last current taxonomical knowledges and identification of this plant were recorded from the 'Flora of Turkey and the East Aegean Islands 8' work and plant's spreadings were recorded from 'Türkiye Bitkileri Listesi' work. In addition at the locale this plant's pickled condition photos was taken in "Van Cheese Sailer Bazaar" which is using in "herb cheese" production.

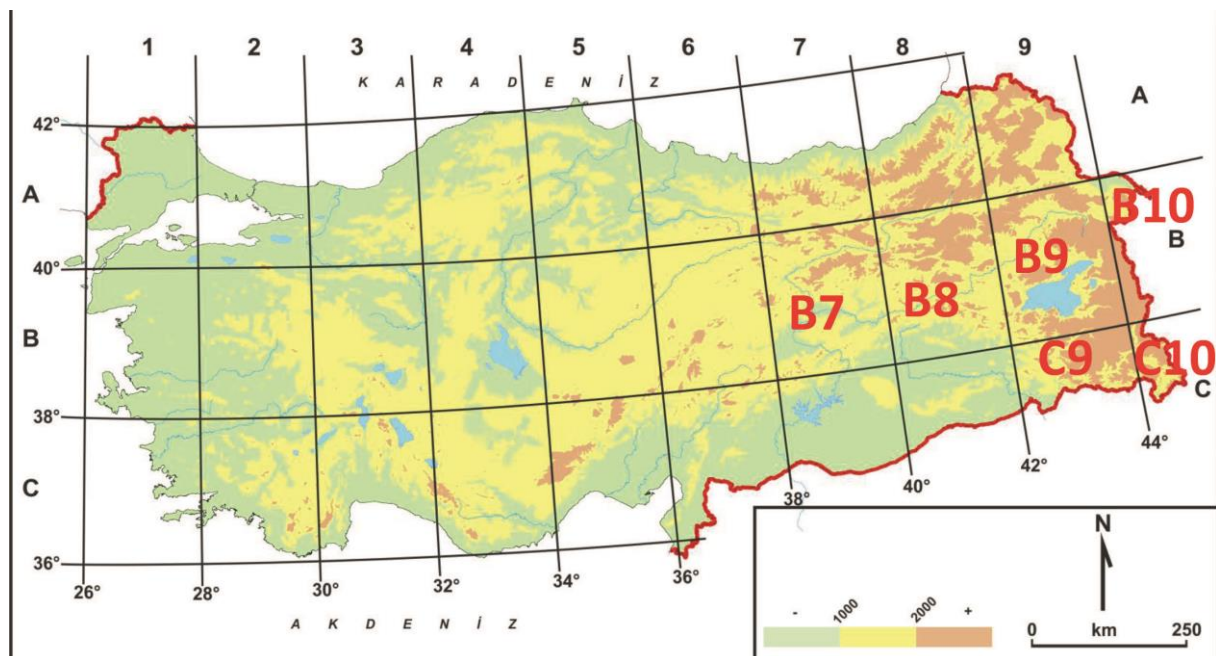


Figure 1. According to the research area of the map grid system

3. DISCUSSIONS and CONCLUSION

Allium akaka S. G. Gmel. Ex Schult. & Schult. f. (Figure 2, 3, 4, 5); Their fresh leaves are consumed as vegetable. Their fresh and onions are used in pilaf. And also, it is grown in gardens for daily consumption. People uproot them from the nature and plant in their gardens; in spring they use their leaves as daily vegetable. Its local name is "Guhbizing". Distribution squares B9, C9, C10 and Ağrı, Van, Hakkâri area. Flowering time May-June months.

Allium atrovioleaceum Boiss. (Figure 2, 3, 4, 5); The young suckers of the plant are used in meals as flavoring. Its meal with yoghurt is made by both boiling and not boiling its leaves when they are fresh. The plant's onion and leaves are used instead of garlic. Its local name is "Kurad". Distribution squares B8, B9, C19 and Muş, Van, Hakkâri area. Flowering time May-July months.

Allium aucheri Boiss. (Figure 2, 3, 4, 5); Its leaves are used in cheese. Its local name is Sırke. Distribution squares B7, B9 and Erzincan, Van area. Flowering time April-June months.

Allium calocephalum Wendelbo (Figure 2, 3, 4, 5); Their fresh leaves are consumed as vegetable. Their dried leaves are used in pilaf in winter. Its local name is "Lüz". Distribution square C9 and Hakkâri city. Flowering time April-May months.

Allium kharputense Freyn & Sint. (Figure 2, 3, 4, 5); In spring, the parts of it that are on surface are picked up and especially used in bulgur pilaf; also used in soup sorts. They are picked up in spring and twined to dry them for winter. It is sold fresh in bazaar. People uproot their onions and plant them in their gardens and use their leaves as vegetable. Its local name is "Soryaz". Distribution squares B7, B8, B9, C9 and Tunceli, Muş, Bitlis, Hakkari, Van area. Flowering time May-June months.

Allium noeanum Reut. ex Regel (Figure 2, 3, 4, 5); Their fresh leaves are consumed as vegetable. Its local name is "Sirik". Distribution square C9 and Hakkâri area. Flowering time April-May months.

Allium pseudoampeloprasum Misch. ex Grossh (Figure 2, 3, 4, 5); All the parts of the plant are used in many meals as flavoring. Its young leaves are used as garlic. It can be used as green onion in salad after it is uprooted cleaned. Its green part and root can be fried. It can be used in treatment of bleb by crushing it milk and butter, adding flour and boiling. After boiling the whole plant in milk, it can be used in healing wounds exteriorly. Its local name is "Sır". Distribution squares B9, C9 and Van, Hakkâri area. Flowering time June-July months.

Allium rhetoreanum Nab. (Figure 2, 3, 4, 5); In spring their young leaves used both in pilaf and as vegetable. After picking up the plant's young leaves are chopped, dried and kept for winter. Its meal is made by frying it with sausage in winters. People uproot their onions and plant them in their gardens and use their leaves as vegetable. Its local name is "Lüş". Distribution square C9 and Hakkâri city. Flowering time April-May months.

Allium schoenoprasum L. (Figure 2, 3, 4, 5); Their fresh leaves are consumed as vegetable. It is also the best flavoring of famous Van cheese. Its young leaves are chopped and added to pastry. People uproot their onions and plant them in their gardens and use their leaves as vegetable. Its local name is "Sırmo". Distribution squares B7, B9, C9 and Tunceli, Van, Hakkâri area. Flowering time June-August months.

Allium shatakiense Rech. f. (Figure 2, 3, 4, 5); Their fresh leaves are consumed as vegetable. It is also the best flavoring of famous Van herby cheese. Its young leaves are chopped and added to pastry. People uproot their onions and plant them in their gardens and use their leaves as vegetable. Its local name is "Çorîn". Distribution squares B9, C9, C10 and, Bitlis, Van, Hakkâri area. Flowering time May-June months.

Allium shirnakiense L. Behçet & Rüstemoğlu (Figure 2, 3, 4, 5); In spring their young leaves used both in pilaf and as vegetable. After picking up the plant's young leaves are chopped, dried and kept for winter. Its meal is made by frying it with sausage in winters. People uproot their onions and plant them in their gardens and use their leaves as vegetable. Its local name is "Lûşik". Distribution square C9 and Hakkâri, Şirnak cities. Flowering time April-May months.

Allium szovitsii Regel (Figure 2, 3, 4, 5); Their fresh leaves are consumed as vegetable. It is also the best flavoring of famous Van cheese. Its young leaves are chopped and added to pastry. People uproot their onions and plant them in their gardens and use their leaves as vegetable. Its local name is "Sîrmo". Distribution square B9 and Van city. Flowering time July-September months.

Allium tuncelianum (Kolman) Özhatay, B. Mathew & Şiraneci (Figure 2, 3, 4, 5); This kind of onion, also known as Tunceli onion, is picked up in the mountains of Munzur, and is sold in bazaar and markets because of its aroma. It is the only species that cultivated in the region. This endemic species has been produced in Tunceli since 1980 and it has been sailed 20-25 tone in one year. Its local name is "Sîrek". Distribution square B7 and Tunceli city. Flowering time July-August months.

Allium vineale L. (Figure 2, 3, 4, 5); Its on surface parts' pickle is made and added to cheese as antibacterial. Its local name is "Sîrmo". Distribution squares B9, C9 and Van, Hakkâri area. Flowering time July-August months.



Figure 2.



Figure 3.

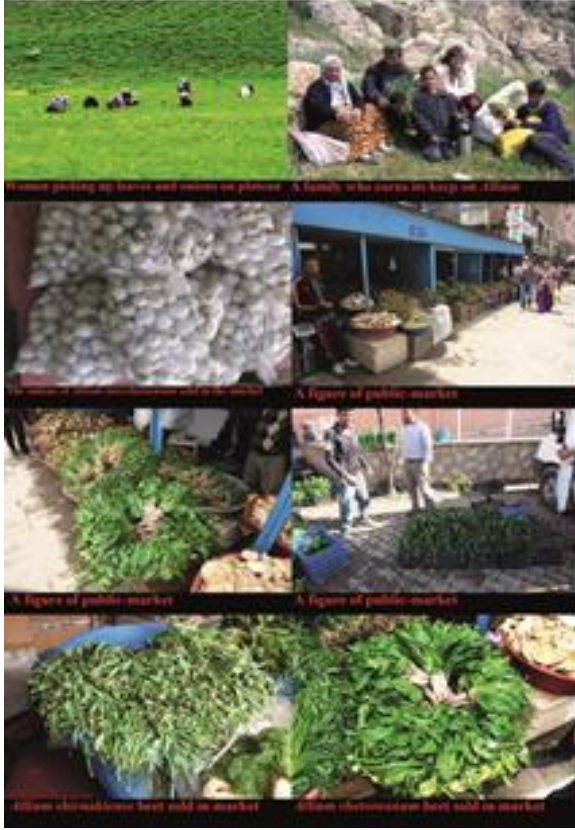


Figure 4.



Figure 5.

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