

## **Fodder, veterinary and miscellaneous useful plants in Kürecik (Malatya- Eastern Turkey)**

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**Abstract:** This study includes the result of a study on the plants as fodder, veterinary and miscellaneous uses in Kürecik (Malatya). 57 taxa (4 cultures) belonging to 26 families are documented in this study. 33 taxa are used as fodder, 3 taxa are used as veterinary and 44 taxa are used for miscellaneous uses in Kürecik (Malatya). The plant specimens were collected with local people who informed us about traditional usage during June 2005-June 2007. The information was recorded, the collected plants were identified, and prepared voucher specimens were kept in the Herbarium of Istanbul University Faculty of Pharmacy (ISTE).

**Key words:** Ethnobotany, fodder, veterinary, miscellaneous, Kürecik, Malatya.

### **Introduction**

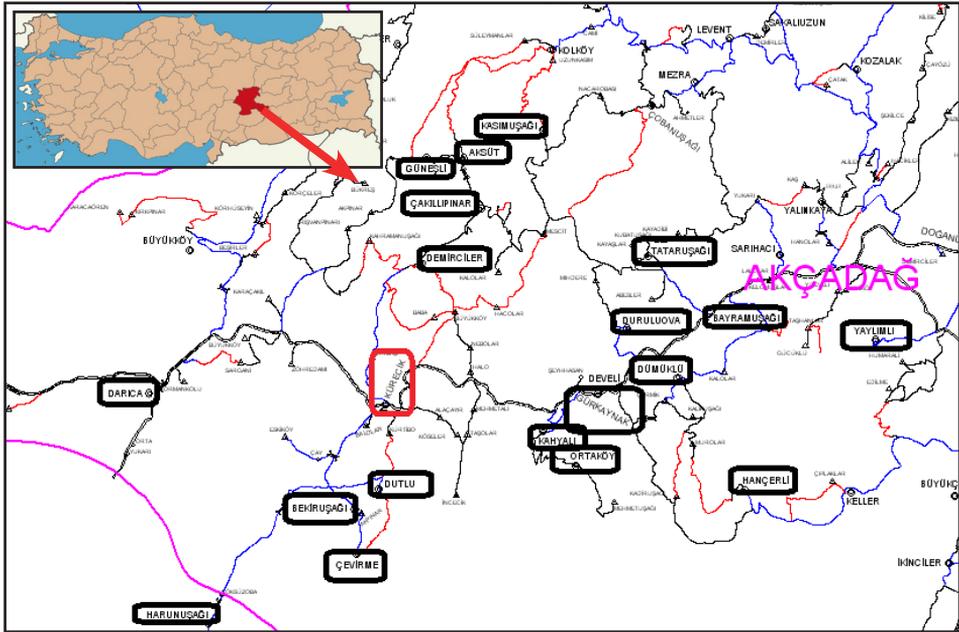
Turkey has a rich flora because of differing climate, geographic and geologic zones (Güner et al. 2012). Furthermore, Anatolia has a cultural diversity which means has a rich ethnobotanical knowledge. Although these plants are mainly used in medical and food, plants are used for different purposes in Turkey (Polat et al. 2012).

Kürecik is one of highest regions of Malatya province in East Anatolia Region of Turkey. It is composed of highland places up to 3200 m. Başyurt Plateau is the highest region (2000-2500 m) in Malatya province (Yeşil 2007).

Kürecik consists of 20 villages (Figure 1) and has a population of 5000 in habitants. Irano-Turanian phytogeographic regions are largely represented in area. Therefore there are forests of small *Quercus* trees, sparsely *Pyrus*, *Crataegus*, *Juniperus* trees, *Rosa canina*, *Berberis crataegina*, *Juniperus excels* and *Cerasus*. Shurbs, *Opoponax*, *Ferula*, *Prangos* herbaceous plants and most important plants are *Astragalus* sp. are widespread (Yeşil 2007).

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The richness of the flora and ethnobotanical knowledge caused us to decide to study about ethnobotany in this region. Also, many inhabitants have moved to big cities so these causes a reduction in relationships with the plants. Medicinal, food and dye plants from Kürecik were published (Yeşil & Akalın 2008, 2009, 2010). The purpose of this study was to record knowledge about fodder, veterinary and miscellaneous usage plants from the region before it disappears.



**Figure 1.** The map of Kürecik (Malatya/Akçadağ) Region

## Materials and Methods

This study is a part of the thesis which is entitled ‘An ethnobotanical Study in Kürecik (Akçadağ/Malatya)’ carried out between June 2005-June 2007. The information about the local names, parts of plants used, and method of preparation was obtained from local healers. These people consist of generally middle aged and elderly women. Questions were asked of the inhabitants and their answers recorded in a questionnaire form (Yeşil 2007, Yeşil & Akalın 2008, Yeşil & Akalın 2009, Yeşil & Akalın 2010-2011).

The used references mainly were The Flora of Turkey and East Islands

(Davis et al. 1965-1988, Güner et al. 2000), Check Lists (Özhatay et al. 2006, 2009, 2011), Flora Iranica (Rechinger 1963-2001) and Flora URSS (Komorov 1934-1960) to identify research material. Identified species were compared with other specimen in herbaria. Voucher specimens of each species were deposited in the Herbarium of Istanbul University, Faculty of Pharmacy, (ISTE) and were given an ISTE number. YY and number mean Yeter Yeşil's collector number, \* marked species are cultured (Tables 1, 2 and 3).

## Results and Discussion

As result of this study, it was specified that 57 taxa of plants including 26 families are used in Kürecik. According to the determinations, 33 of these utilized taxa are used for fodder (Table 1), 3 taxa for veterinary (Table 2) and 44 taxa for miscellaneous uses (Table 3).

### *Fodder plants;*

*Astragalus* species which have spines are picked up with their radix and spines are kept in fire to burn the spines. Because spine can damage to animals stomach or digestive system. Then plants without spines are collected in a cluster and in winter plants are cut to pieces for using as fodder. But *Astragalus* species are used only for oxes and donkeys. People know that if caws are feeded with *Astragalus* species, the milk of caws will be hot and toxic, also it cause to losing calf in pregnant caws. If sheeps are feeded with *Astragalus* species it can cause death (Figure 2A).

*Ferula rigidula* and *Prangos platychlaena* are used when they are dry. Local people know that if they feed the animals, they could get sick.

Stems of plants with spine like *Centaurea depressa*, *Echinops orientalis*, *E. viscosus* subsp. *bithynicus*, *Eryngium billardieri*, *Cirsium lappaceum* subsp. *anatolicum* are cut by using a threshing sledge and when the plants break up like chaff, they can be used as fodder.

*Euphorbia macroclada* was only used for feeding camels, not other animals. Local inhabitants know that it is poisonous.

Leaves of species expecially from the Rosaceae (*Armeniaca vulgaris*,

*Pyrus communis*), Salicaceae (*Salix fragilis*, *Populus nigra* subsp. *caudina*) and Fagaceae (*Quercus cerris*, *Q. infectoria* subsp. *boissieri*, *Q. libani*) family are used for feeding when the leaves are fresh.

Chaff of *Hordeum vulgare* and *Triticum aestivum* are used in winter. Once a day fruits of these species are used for feeding in winter.

*Taraxacum montanum*, *Convolvulus arvensis* are collected and are used when fresh to feed calves because of its softness.

### ***Veterinary useful plants;***

According to our record in the area the usage of *Verbascum asperuloides* and *Verbascum* species which have dense hairy leaves are common. Local people are powdering the leaves and they are putting this powder in injuries of animals to protect from parasites.

### ***Miscellaneous useful plants;***

Dried stems of *Verbascum asperuloides* (Figure 2B), *Asphodeline damascene* subsp. *damascene* and fallen leaves of *Armeniaca vulgaris*, *Pyrus communis*, *Salix fragilis*, *Populus nigra* subsp. *caudina* are collected in autumn for set on fire in winter. Dried leaves, perennial herbs or small shrubs are used for lighting a fire. Also in the research area people cook a thin bread on a sheet metal. They burn the dried leaves, perennial herbs or small shrubs because the fire should not be strong. Otherwise stems of trees as *Crataegus* species or *Quercus* species are used for giving warmth in winter.

Shepherds cut petioles of leaves or branches of *Ficus carica* subsp. *rupestris* and the flowing latex are using for boiling milk. If the plants are far away, shepherds dunk a cotton into the latex and they use this cotton for boiling milk.

Branches of *Elaeagnus angustifolia* subsp. *angustifolia* are collected and are put into water for a day, then the bark is peeled off. The cleaned branches are aligned and a hard yarn is thread around the branches in tree lines; centre, upside and the underside. They are placed under a heavy material for two days to give a smooth shape. These created objects are

known as Kaşığ. It is used for filtering water of cheese when cheese is made. The cheese is put among Kaşığ and heavy stones are put on top of the Kaşığ (Figure 3B).

Stems of *Crataegus x bornmuelleri*, *C. meyeri* and *C. orientalis* var. *orientalis* are used to create Taşı (for speening wool) and Elung. Elung is worn on four fingers when people cutwheat in the field to collect more wheat in hand and to protect the fingers. Stems of *Juglans regia* are used to create Dibek that is used as muller to powdering some seeds like *Papaver somniferum* seeds (Figure 4A)

Fruits of *Xeranthemum annuum* are immersed in fresh leaves of *Pyrus communis* to create a hairclip (Figure 4B).

Local people put *Prometheum sempervroidens* to a higher place in their house because they believe that if the flower of the plants bloom, it would bring good luck to the people who live in that house.

**Table 1.** Fodder plants in Kürecik

Plant name	Local Name	Parts Used
<b>Apiaceae</b>		
<i>Eryngium billardieri</i> Delar ISTE 83876	Karance Karan	aerial parts
<i>Ferula rigidula</i> L. ISTE 83865	Çağşır, Kırkor, Kırkora Raş	aerial parts
<i>Opoponax hispidus</i> (Friv.) Gris ISTE 83870	Halız, Helız, Kırkorazar	aerial parts
<i>Prangos platychlaena</i> Boiss. Ex Tchihat ISTE 83706	Çağşır, Kırkor, Korkor	aerial parts
<b>Asteraceae</b>		
<i>Centaurea depressa</i> Bieb. ISTE 83653	Kingözü	all parts
<i>Chondrilla juncea</i> L. var. <i>juncea</i> ISTE 83858	Çıtlık	aerial parts
<i>Cirsium lappaceum</i> L. ISTE 83811	Istriye Karan	aerial parts
<i>Echinops orientalis</i> Trautv. ISTE 83654	Topık Istri	aerial parts

<i>Echinops spinosissimus</i> Turra subsp. <i>bithynicus</i> (Boiss.) Greuter ISTE 83689	Gavur Başı	aerial parts
<i>Gundelia tournefortii</i> L. var. <i>tournefortii</i> ISTE 83639	Karang, Kereng	latex
<i>Scorzonera tomentosa</i> L. ISTE 83663	Neraband	aerial parts
<i>Taraxacum montanum</i> (C.A.Mey.) DC. YY213	Caşır	aerial parts
<b>Convolvulaceae</b>		
<i>Convolvulus arvensis</i> L. ISTE 83612	Sarmaşığe Spi	all parts
<b>Euphorbiaceae</b>		
<i>Euphorbia macroclada</i> Boiss. ISTE 83607	Ğaşıl	aerial parts
<b>Fabaceae</b>		
<i>Astragalus altanii</i> Hub.-Mor. ISTE 83588	Cuniye Haspan	all parts
<i>Astragalus compactus</i> Lam. ISTE 83908	Cuni	all parts
<i>Astragalus creticus</i> Lam. YY4321	Cuniye Raş	all parts
<i>Astragalus kurdicus</i> Boiss. ISTE 83906	Cuniye Ispi	all parts
<i>Astragalus lamarckii</i> Boiss. ISTE 83640	Cuniye Davşık	all parts
<i>Astragalus lagopoides</i> Lam. YY4318	Cuniye Çakıldağ	all parts
<i>Astragalus pennatulus</i> Hub.-Mor. & Chamb. ISTE 83907	Cuni	all parts
<i>Astragalus plumosus</i> Willd. YY4320	Cuniye Zarık	all parts
<i>Astragalus pycnocephalus</i> Fisch. YY4322	Cuniye Biçik	all parts

<i>Astragalus xylobasis</i> Freyn & Bornm. <i>var. xylobasis</i> ISTE 83657	Caraş, Korunga	all parts
<b>Fagaceae</b>		
<i>Quercus cerris</i> L. ISTE 83716	Çorık	leaves
<i>Quercus infectoria</i> Oliv. subsp. <i>veneris</i> (A.Kern.) Meikle YY4033	Çorık	leaves
<i>Quercus libani</i> Oliv. YY4030	Çorık	leaves
<b>Poaceae</b>		
* <i>Hordeum vulgare</i> L. YY330	Ca	chaff off stem, fruit
* <i>Triticum aestivum</i> L. YY331	Ganım	chaff off stem, fruit
<b>Rosaceae</b>		
* <i>Armeniaca vulgaris</i> Lam. YY335	Herung, Mişmiş	leaves
* <i>Pyrus communis</i> L. YY336	Armut, Bozık	leaves
<b>Salicaceae</b>		
<i>Salix fragilis</i> L. ISTE 83861	Biya Gavrak	leaves
<i>Populus nigra</i> L. subsp. <i>caudina</i> (Ten.) Bugala YY337	Kavağ	leaves

**Table 2.** Veterinary useful plants in Kürecik

Plant name	Local name	Parts Used	Use and Administration
<b>Berberidaceae</b>			
<i>Berberis crataegina</i> DC. ISTE 83721	Karamuk	fruit, radix	decoction, internal, antiparasitic
<b>Rosaceae</b>			

<i>Rosa canina</i> L. ISTE 83783	Şilan	fruit, radix	decoction, internal, antidiaretic
<b>Scrophulariaceae</b>			
<i>Verbascum asperuloides</i> Hub.-Mor. ISTE 83658	Maçyanık, Yalankı	leaves, flowers	powder, external, in injuries antiparasitic

**Table 3.** Miscellaneous useful plants in Kürecik

Plant name	Local name	Parts Used	Use and Administration
<b>Aristolochiaceae</b>			
<i>Aristolochia maurorum</i> L. ISTE 83872	Kundırcınık	flowers	putting on as earring
<b>Asteraceae</b>			
<i>Centaurea virgate</i> Lam. ISTE 83738	Ardavık	aerial parts	as broom
<i>Chondrilla juncea</i> L. var. <i>juncea</i> ISTE 83858	Çıtlık	aerial parts	as broom
<i>Gundelia tournefortii</i> L. var. <i>tournefortii</i> ISTE 83639	Karang, Kereng	latex	chewing gum
<i>Scariola orientalis</i> (Boiss.) Solják ISTE 83905	Sızıka mişkan	aerial parts	dowse water to bread for soften
<i>Scorzonera tomentosa</i> L. ISTE 83663	Neraband	latex	chewing gum
<i>Xeranthemum annuum</i> L. ISTE 83879	-	fruits	preparing hairclip
<b>Berberidaceae</b>			
<i>Berberis crataegina</i> DC. ISTE 83721	Karamuk	mature fruits	as nailpolish

<b>Campanulaceae</b>			
<i>Asyneuma limonifolium</i> (L.) Janch. subsp. <i>limonifolium</i> ISTE 83609	Karangtujuk	aerial parts	as broom
<b>Caprifoliaceae</b>			
<i>Scabiosa argentea</i> L. ISTE 83629	Sızıkı zar	aerial parts	as broom
<b>Caryophyllaceae</b>			
<i>Herniaria incana</i> Lam. ISTE 83768	Sabuna çuçikan, sabuna çukan	aerial parts	as soap
<b>Crassulaceae</b>			
<i>Prometheum sempervivoides</i> (Fischer ex M.Bieb.) H.Ohba ISTE 83862	Caye çunan	all parts	to bring good luck
<b>Cupressaceae</b>			
<i>Juniperus excels</i> Bieb. ISTE 83871	Evirsa, Hevirs	stem	building home, lighting, burn for heating
<b>Fagaceae</b>			
<i>Quercus cerris</i> L. ISTE 83716	Çorık	branches stem	creating walking stick burn for heating
<i>Quercus infectoria</i> Oliv. subsp. <i>veneris</i> (A.Kern.) Meikle YY4033	Çorık	branches stem	creating walking stick burn for heating
<i>Quercus libani</i> Oliv. YY4030	Çorık	branches stem	creating walking stick burn for heating
<b>Elaeagnaceae</b>			

<i>Elaeagnus angustifolia</i> L. var. <i>angustifolia</i> ISTE 83914	Sing	branches	to filter the cheese
<b>Fabaceae</b>			
<i>Astragalus compactus</i> Lam. ISTE 83908	Cuni	all parts	set on fire
<i>Astragalus creticus</i> Lam. YY4321	Cuniye raş	all parts	set on fire
<i>Astragalus kurdicus</i> Boiss. ISTE 83906	Cuniye ıspı	all parts	set on fire
<i>Astragalus lamareckii</i> Boiss. ISTE 83640	Cuniye davşık	all parts	set on fire
<i>Astragalus lineatus</i> L. var. <i>lineatus</i> ISTE 83695	Patpat	inflated calix	as toy
<i>Astragalus pennatulus</i> Hub.-Mor. & Chamb. ISTE 83907	Cuni	all parts	set on fire
<i>Astragalus plumosus</i> Willd. YY4320	Cuniye zarık	all parts	set on fire
<i>Astragalus pycnocephalus</i> Fisch. YY4322	Cuniye bıçık	all parts	set on fire
<i>Astragalus xylobasis</i> Freyn & Bornm. var. <i>xylobasis</i> ISTE 83657	Caraş, korunga	all parts	set on fire
<b>Juglandaceae</b>			
* <i>Juglans regia</i> L. YY334	Ceviz, Cuz	leaves stem	antiodor creating 'dibek'
<b>Juncaceae</b>			
<i>Juncus inflexus</i> L. ISTE 83781	Caraş	aerial parts	to creating hat, to lay something on

<b>Lamiaceae</b>			
<i>Mentha longifolia</i> (L.) L. subsp. <i>typhoides</i> (Briq.) Harley ISTE 83661	Pung	aerial parts	antiodor
<b>Moraceae</b>			
<i>Ficus carica</i> L. subsp. <i>rupestris</i> (Hauskn.) Browicz ISTE 83664	Hincir, Karık hincir	latex	brewing milk
<b>Papaveraceae</b>			
<i>Papaver dubium</i> L. subsp. <i>laevigatum</i> (M. Bieb.) Kadereit ISTE 83611	Gula sor, Kulilka sor, Lala	flowers, capsule	like cream for skin softener whistle
<i>Papaver macrostomum</i> Boiss. et Huet ex Boiss. ISTE 83610	Gula sor, Kulilka sor, Lala	flowers, capsule	like cream for skin softener whistle
<b>Plumbaginaceae</b>			
<i>Acantholimon acerosum</i> (Wild.) Boiss. var. <i>acerosum</i> ISTE 83701	Fızık	all parts	set on fire
<b>Resedaceae</b>			
<i>Reseda lutea</i> L. var. <i>lutea</i> ISTE 83601	Eşek turpu, Turpe Karan	aerial parts	gathering honey bee to beehive
<b>Rosaceae</b>			
* <i>Armeniaca vulgaris</i> Lam. YY335	Heruŋ, Mişmiş	resin pericarp, stem	as glue burn for heating
<i>Crataegus x bornmuelleri</i> Zabel ISTE 83785	Alıç, Cıvic, Gıvica zar	stem	creating walking stick, taşı, eluŋ, burn for heating
<i>Crataegus meyeri</i> Pojark ISTE 83785	Riğok, Roğık	stem stem	creating walking stick, taşı, eluŋ burn for heating

<i>Crataegus orientalis</i> Palas ex Bieb. var. <i>orientalis</i> ISTE 83645	Alıç, Cıvic, Cıvica sur, Gıvica sur	stem  stem	creating walking stick, taşi, elung  burn for heating
* <i>Pyrus communis</i> L. YY336	Armut, Bozık	leaves stem	whistle and airclip burn for heating
<i>Rosa canina</i> L. ISTE 83783	Şılan	branches	as broom
<b>Salicaceae</b>			
<i>Salix fragilis</i> L. ISTE 83861	Biya gavrak	young twig stem	creating whistle set on fire
<i>Populus nigra</i> L. subsp. <i>caudina</i> (Ten.) Bugala YY337	Kavağ	stem, leaves	set on fire
<b>Scrophulariaceae</b>			
<i>Verbascum</i> <i>asperuloides</i> Hub.- Mor. ISTE 83658	Maçyanık, Yalankı	all parts	set on fire
<b>Xanthorrhoeaceae</b>			
<i>Asphodeline</i> <i>damascena</i> (Boiss.) Baker subsp. <i>damascene</i> ISTE 83641	Buk, Takasakali	all parts	set on fire



**Figure 2.** A. Cennet Genç (74) with *Astragalus* species; B Nazife Akpınar (65) are collecting *Verbascum* sp.



**Figure 3.** A. A broom created with *Asyneuma* sp.; B. Yeter Turan (47) is filtering cheese with Kaşığ



**Figure 4.** A. Dibek; B. A child with hairclip

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