

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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(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 semperviroidens* 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 |
|--|--------------------------------|--------------|
| Apiaceae | | |
| <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 |
| Asteraceae | | |
| <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 | Çaşır | aerial parts |
| Convolvulaceae | | |
| <i>Convolvulus arvensis</i> L. ISTE 83612 | Sarmaşığe Spi | all parts |
| Euphorbiaceae | | |
| <i>Euphorbia macroclada</i> Boiss. ISTE 83607 | Ğaşıl | aerial parts |
| Fabaceae | | |
| <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 |

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|---|-------------------|--------------------------|
| <i>Astragalus xylobasis</i> Freyn & Bornm. <i>var. xylobasis</i> ISTE 83657 | Caraş, Korunga | all parts |
| Fagaceae | | |
| <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 |
| Poaceae | | |
| * <i>Hordeum vulgare</i> L. YY330 | Ca | chaff off stem, fruit |
| * <i>Triticum aestivum</i> L. YY331 | Ganım | chaff off stem, fruit |
| Rosaceae | | |
| * <i>Armeniaca vulgaris</i> Lam. YY335 | Herung, Mişmiş | leaves |
| * <i>Pyrus communis</i> L. YY336 | Armut, Bozık | leaves |
| Salicaceae | | |
| <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 |
|---|------------|--------------|--|
| Berberidaceae | | | |
| <i>Berberis crataegina</i> DC. ISTE 83721 | Karamuk | fruit, radix | decoction, internal, antiparasitic |
| Rosaceae | | | |

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|---|----------------------|--------------------|--|
| <i>Rosa canina</i> L. ISTE 83783 | Şilan | fruit, radix | decoction, internal, antidiaretic |
| Scrophulariaceae | | | |
| <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 |
|---|-------------------|---------------|---------------------------------|
| Aristolochiaceae | | | |
| <i>Aristolochia maurorum</i> L. ISTE 83872 | Kundırcınık | flowers | putting on as earring |
| Asteraceae | | | |
| <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 | Sızık 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 |
| Berberidaceae | | | |
| <i>Berberis crataegina</i> DC. ISTE 83721 | Karamuk | mature fruits | as nailpolish |

| Campanulaceae | | | |
|---|---------------------------------------|------------------|---|
| <i>Asyneuma limonifolium</i> (L.) Janch. subsp. <i>limonifolium</i> ISTE 83609 | Karangtujuk | aerial parts | as broom |
| Caprifoliaceae | | | |
| <i>Scabiosa argentea</i> L. ISTE 83629 | Sızık zar | aerial parts | as broom |
| Caryophyllaceae | | | |
| <i>Herniaria incana</i> Lam. ISTE 83768 | Sabuna çuçikan, sabuna çukan | aerial parts | as soap |
| Crassulaceae | | | |
| <i>Prometheum sempervivoides</i> (Fischer ex M.Bieb.) H.Ohba ISTE 83862 | Caye çunan | all parts | to bring good luck |
| Cupressaceae | | | |
| <i>Juniperus excels</i> Bieb. ISTE 83871 | Evirsa, Hevirs | stem | building home, lighting, burn for heating |
| Fagaceae | | | |
| <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 |
| Elaeagnaceae | | | |

| | | | |
|--|----------------|----------------|--------------------------------------|
| <i>Elaeagnus angustifolia</i> L. var. <i>angustifolia</i> ISTE 83914 | Sing | branches | to filter the cheese |
| Fabaceae | | | |
| <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 |
| Juglandaceae | | | |
| * <i>Juglans regia</i> L. YY334 | Ceviz, Cuz | leaves stem | antiodor creating 'dibek' |
| Juncaceae | | | |
| <i>Juncus inflexus</i> L. ISTE 83781 | Caraş | aerial parts | to creating hat, to lay something on |

| Lamiaceae | | | |
|--|-----------------------------------|-------------------------|---|
| <i>Mentha longifolia</i> (L.) L. subsp. <i>typhoides</i> (Briq.) Harley ISTE 83661 | Pung | aerial parts | antiodor |
| Moraceae | | | |
| <i>Ficus carica</i> L. subsp. <i>rupestris</i> (Hauskn.) Browicz ISTE 83664 | Hincir, Karık hincir | latex | brewing milk |
| Papaveraceae | | | |
| <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 |
| Plumbaginaceae | | | |
| <i>Acantholimon acerosum</i> (Wild.) Boiss. var. <i>acerosum</i> ISTE 83701 | Fızık | all parts | set on fire |
| Resedaceae | | | |
| <i>Reseda lutea</i> L. var. <i>lutea</i> ISTE 83601 | Eşek turpu, Turpe Karan | aerial parts | gathering honey bee to beehive |
| Rosaceae | | | |
| * <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 |

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|---|---|-----------------------|--|
| <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 |
| Salicaceae | | | |
| <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 |
| Scrophulariaceae | | | |
| <i>Verbascum</i> <i>asperuloides</i> Hub.- Mor. ISTE 83658 | Maçyanık, Yalankı | all parts | set on fire |
| Xanthorrhoeaceae | | | |
| <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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