

AN ETHNOPHARMACOLOGICAL ANALYSIS OF ROSACEAE TAXA IN TURKEY

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Abstract

Rosaceae is one of the richest families in the flora of Turkey. It is also one of the most important families that are used in traditional therapy in Turkey. The aim of this study was revising Rosaceae family plants that are used as folk medicines in Turkey based on our local ethnobotanical excursions and scientific literature records. The ethnopharmacological information was obtained through open ended and semi-structured interviews with the local people. The specimens of the folk medicinal plants were collected during the field works and then identified. In addition, the scientific literature records on the subject were revised.

Our investigations and the literature records yielded that 107 taxa of Rosaceae are used in therapy as folk medicines in Turkey. Among them, *Rosa canina*, *Cydonia oblonga*, *Mespilus germanica*, *Crataegus monogyna* subsp. *monogyna*, *Crataegus aronia* var. *aronia* and *Rubus sanctus* are the most popular medicinal plants and they are used in many localities of Turkey. The plants are mostly used for the digestive, urinary, circulatory, and respiratory system diseases.

Keywords: Rosaceae, Medicinal Plants, Ethnobotany, Turkey

Introduction

Ethnobotanical studies are very important to reveal the past and present culture about the plants in the world. Since the ancient times people have used the plants as a source of medicine. Around 80% of general population in the world use plants to treat several illnesses. Medicinal plants are an important source of current drugs and about 25% of the drugs prescribed worldwide come from plants.

The Turkish flora contains 9582 species of vascular plants and about 3155 of them are endemic. Turkey has many ethnopharmacological review on the Turkish Rosaceae species Anatolian civilizations and therefore this region has various historical and cultural richness. Due to this richness, traditional herbal medicine has a significant role in Turkey. Many ethnobotanical studies have been done by researchers in Turkey.

Rosaceae is one of the richest families in the flora of Turkey. This family includes annual to perennial shrubs or herbaceous plants. It is some prominent family rich with essential oil. The ratio of endemism is high (30.1%). Rosaceae is also one of the most important families in which there are many popular plants used in traditional therapy in Turkey.

The aim of this study is a revision on the Turkish folk medicinal plants of the Rosaceae family according to our investigations and scientific literature records (presented in references). Our studies are based on mainly local ethnobotanical investigations.

Material and Methods

The ethnopharmacological information was obtained through open and semi-structured interviews from the local people. The specimens of the folk medicinal plants were collected during the field works and then identified. The plant specimens are kept in the Herbarium of Faculty of Pharmacy, University of Marmara (MARE). In addition, the scientific literature records on the subject were revised.

Results

107 folk medicinal plants were represented in this study. The plant parts used for treating different ailments were fruits, leaves, aerial parts, subterranean parts and other parts. Also, to prepare the remedies the local people sometimes used other ingredients, such as flour, honey and milk. The preparation methods were infusion, decoction and other ways or they were directly applied. According to the majority of the informants, the plants were mostly used for the digestive, urinary, circulatory and respiratory system diseases.

Plants are represented by used purpose in alphabetical order according to their Latin names. If present, subspecies and/or variety, they were excluded in under the lists.

PLANTS USED FOR DENTAL AND ORAL HEALTHCARE

<i>Crataegus monogyna</i> subsp. <i>monogyna</i>	<i>Rubus canescens</i> var. <i>canescens</i>
<i>Potentilla recta</i>	<i>Rubus canescens</i> var. <i>glabratus</i>
<i>Prunus spinosa</i> subsp. <i>dasyphylla</i>	<i>Rubus hirtus</i>
<i>Rosa damascena</i>	<i>Rubus idaeus</i>
<i>Rubus caesius</i>	<i>Rubus sanctus</i>
<i>Rubus canescens</i>	

PLANTS USED FOR PAIN RELIEF

<i>Amygdalus communis</i>	<i>Cydonia oblonga</i>
<i>Armeniaca vulgaris</i>	<i>Laurocerasus officinalis</i>
<i>Crataegus aronia</i> var. <i>aronia</i>	<i>Persica vulgaris</i>
<i>Crataegus monogyna</i>	<i>Potentilla caucasicus</i>
<i>Crataegus monogyna</i> subsp. <i>monogyna</i>	<i>Rosa damascena</i>

PLANTS USED FOR URINARY SYSTEM DISORDERS AND DISEASES

<i>Amelanchier parviflora</i> var. <i>dentata</i>	<i>Prunus x domestica</i>
<i>Amygdalus communis</i>	<i>Prunus spinosa</i> subsp. <i>dasyphylla</i>
<i>Cerasus avium</i>	<i>Pyracantha coccinea</i>
<i>Cerasus mahaleb</i>	<i>Pyrus communis</i>
<i>Cerasus mahaleb</i> var. <i>mahaleb</i>	<i>Pyrus elaeagnifolia</i> subsp. <i>elaagnifolia</i>
<i>Cerasus microcarpa</i>	<i>Rosa canina</i>
<i>Cerasus microcarpa</i> subsp. <i>tortuosa</i>	<i>Rosa gallica</i>
<i>Cerasus vulgaris</i>	<i>Rosa pulverulenta</i>
<i>Crataegus aronia</i> var. <i>aronia</i>	<i>Rubus canescens</i>
<i>Crataegus aronia</i> var. <i>minuta</i>	<i>Rubus canescens</i> var. <i>canescens</i>
<i>Crataegus meyeri</i>	<i>Rubus canescens</i> var. <i>glabratus</i>
<i>Crataegus monogyna</i>	<i>Rubus discolor</i>
<i>Crataegus monogyna</i> subsp. <i>monogyna</i>	<i>Rubus hirtus</i>
<i>Crataegus orientalis</i>	<i>Rubus idaeus</i>
<i>Crataegus szovitsii</i>	<i>Rubus sanctus</i>
<i>Fragaria vesca</i>	<i>Sanguisorba minor</i> subsp. <i>magnolii</i>
<i>Laurocerasus officinalis</i>	<i>Sanguisorba minor</i> subsp. <i>muricata</i>
<i>Malus sylvestris</i>	<i>Sarcopoterium spinosum</i>
<i>Mespilus germanica</i>	<i>Sorbus aucuparia</i>
<i>Potentilla inclinata</i>	<i>Sorbus domestica</i>
<i>Prunus divaricata</i> subsp. <i>ursina</i>	

PLANTS USED FOR CARDIOVASCULAR SYSTEM DISORDERS AND DISEASES

<i>Agrimonia eupatoria</i>	<i>Crataegus orientalis</i>
<i>Alchemilla sintenisii</i>	<i>Crataegus orientalis</i> var. <i>orientalis</i>
<i>Amelanchier parviflora</i> var. <i>Parviflora</i>	<i>Crataegus pentagyna</i>
<i>Amygdalus communis</i>	<i>Crataegus pseudoheterophylla</i>
<i>Amygdalus orientalis</i>	<i>Crataegus stevenii</i>
<i>Armeniaca vulgaris</i>	<i>Crataegus szovitsii</i>
<i>Cerasus mahaleb</i>	<i>Crataegus tanacetifolia</i>
<i>Cerasus mahaleb</i> var. <i>alpina</i>	<i>Cydonia oblonga</i>
<i>Cerasus mahaleb</i> var. <i>mahaleb</i>	<i>Eriobotrya japonica</i>
<i>Cerasus microcarpa</i> subsp. <i>tortuosa</i>	<i>Eriolobus trilobatus</i>
<i>Cerasus vulgaris</i>	<i>Eriolobus trilobatus</i> var. <i>trilobatus</i>
<i>Cotoneaster nummularia</i>	<i>Fragaria vesca</i>
<i>Crataegus aronia</i> var. <i>aronia</i>	<i>Geum urbanum</i>
<i>Crataegus aronia</i> var. <i>minuta</i>	<i>Laurocerasus officinalis</i>
<i>Crataegus atrosanguinea</i>	<i>Malus sylvestris</i>
<i>Crataegus azarolus</i>	<i>Malus sylvestris</i> subsp. <i>mitis</i>
<i>Crataegus x bornmuelleri</i>	<i>Malus sylvestris</i> subsp. <i>orientalis</i> var. <i>orientalis</i>
<i>Crataegus meyeri</i>	<i>Mespilus germanica</i>
<i>Crataegus monogyna</i>	<i>Persica vulgaris</i>
<i>Crataegus monogyna</i> subsp. <i>azarella</i>	<i>Potentilla inclinata</i>
<i>Crataegus monogyna</i> subsp. <i>monogyna</i>	<i>Potentilla reptans</i>

Prunus armeniaca
Prunus cocomilia var. *puberula*
Prunus divaricata
Prunus divaricata subsp. *divaricata*
Prunus divaricata subsp. *ursina*
Prunus kurdica
Prunus x domestica
Prunus spinosa subsp. *dasyphylla*
Pyrus amygdaliformis var. *amygdaliformis*
Pyrus bulgarica
Pyrus communis subsp. *caucasica*
Pyrus elaeagnifolia
Pyrus elaeagnifolia subsp. *elaeagnifolia*
Pyrus elaeagnifolia subsp. *kotschyana*
Pyrus syriaca var. *syriaca*
Rosa canina
Rosa gallica

Rosa phoenicia
Rosa pimpinellifolia
Rosa sempervirens
Rubus caesius
Rubus canescens
Rubus canescens var. *canescens*
Rubus canescens var. *glabratus*
Rubus discolor
Rubus hirtus
Rubus idaeus
Rubus sanctus
Sarcopoterium spinosum
Sorbus aucuparia
Sorbus domestica
Sorbus torminalis var. *orientalis*
Sorbus umbellata

PLANTS USED FOR VARIOUS SKIN DISEASES

Alchemilla crinita
Alchemilla pseudocartalinica
Amygdalus communis
Armeniaca vulgaris
Crataegus meyeri
Crataegus monogyna subsp. *azarella*
Cydonia oblonga
Fragaria vesca
Laurocerasus officinalis
Malus sylvestris subsp. *mitis*
Malus sylvestris subsp. *orientalis* var. *orientalis*
Mespilus germanica
Persica vulgaris
Potentilla recta
Potentilla reptans
Potentilla speciosa var. *speciosa*
Prunus spinosa subsp. *dasyphylla*

Pyrus communis subsp. *communis*
Pyrus elaeagnifolia subsp. *elaeagnifolia*
Rosa canina
Rosa damascena
Rubus caesius
Rubus canescens
Rubus canescens var. *canescens*
Rubus canescens var. *glabratus*
Rubus discolor
Rubus hirtus
Rubus idaeus
Rubus sanctus
Rubus tereticaulis
Sanguisorba minor subsp. *magnolii*
Sanguisorba minor subsp. *muricata*
Sorbus domestica

PLANTS USED FOR MUSCULAR AND SKELETAL SYSTEM DISEASES

Alchemilla sintenisii
Amygdalus communis
Armeniaca vulgaris
Crataegus aronia var. *aronia*
Crataegus x bornmuelleri
Crataegus meyeri
Crataegus monogyna subsp. *monogyna*
Crataegus orientalis var. *orientalis*
Eriolobus trilobatus

Laurocerasus officinalis
Mespilus germanica
Potentilla reptans
Prunus spinosa
Rosa canina
Rubus discolor
Rubus hirtus
Rubus sanctus
Rubus tereticaulis

PLANTS USED FOR GASTROINTESTINAL DISORDERS

Agrimonia eupatoria
Alchemilla sintenisii
Alchemilla barbatiflora
Amelanchier parviflora var. *parviflora*
Amygdalus communis
Armeniaca vulgaris
Cerasus avium
Cerasus hippophaeoides
Cerasus mahaleb var. *alpina*
Cerasus mahaleb var. *mahaleb*
Cerasus vulgaris

Cotoneaster integerrimus
Cotoneaster nummularia
Crataegus aronia var. *aronia*
Crataegus aronia var. *minuta*
Crataegus meyeri
Crataegus microphylla
Crataegus monogyna subsp. *monogyna*
Crataegus orientalis
Crataegus orientalis var. *orientalis*
Crataegus pseudoheterophylla
Crataegus szovitsii

Crataegus tanacetifolia
Cydonia oblonga
Eriobotrya japonica
Eriolobus trilobatus
Fragaria vesca
Geum urbanum
Laurocerasus officinalis
Malus sylvestris
Malus sylvestris subsp. *mitis*
Mespilus germanica
Persica vulgaris
Potentilla recta
Potentilla reptans
Prunus divaricata subsp. *divaricata*
Prunus divaricata subsp. *ursina*
Prunus x domestica
Prunus spinosa
Prunus spinosa subsp. *dasyphylla*
Pyrus amygdaliformis var. *amygdaliformis*
Pyrus bulgarica
Pyrus communis subsp. *communis*
Pyrus communis subsp. *sativa*
Pyrus elaeagnifolia
Pyrus elaeagnifolia subsp. *elaegnifolia*
Pyrus elaeagnifolia subsp. *kotschyana*

Pyrus syriaca
Pyrus syriaca var. *syriaca*
Rosa canina
Rosa damascena
Rosa gallica
Rosa montana subsp. *woronowii*
Rosa pimpinellifolia
Rosa pulverulenta
Rosa sempervirens
Rubus canescens
Rubus canescens var. *canescens*
Rubus canescens var. *glabratus*
Rubus discolor
Rubus hirtus
Rubus idaeus
Rubus sanctus
Rubus tereticaulis
Sanguisorba minor
Sanguisorba minor subsp. *muricata*
Sarcopoterium spinosum
Sorbus aucuparia
Sorbus domestica
Sorbus torminalis
Sorbus torminalis var. *orientalis*

PLANTS USED TO TREAT NEUROLOGICAL DISORDERS

Alchemilla crinita
Amygdalus communis
Crataegus aronia var. *aronia*
Crataegus monogyna

Crataegus monogyna subsp. *azarella*
Crataegus monogyna subsp. *monogyna*
Crataegus pentagyna
Potentilla recta

PLANTS USED TO TREAT RESPIRATORY DISEASES

Agrimonia eupatoria
Alchemilla barbatiflora
Alchemilla pseudocartalinica
Alchemilla sintenisii
Amygdalus communis
Cerasus avium
Cerasus mahaleb var. *alpina*
Cerasus mahaleb var. *mahaleb*
Cerasus microcarpa subsp. *tortuosa*
Cerasus vulgaris
Cotoneaster integerrimus
Cotoneaster nummularia
Crataegus aronia var. *aronia*
Crataegus aronia var. *minuta*
Crataegus microphylla
Crataegus monogyna subsp. *azarella*
Crataegus monogyna subsp. *monogyna*
Crataegus orientalis var. *orientalis*
Crataegus pentagyna
Crataegus szovitsii
Crataegus tanacetifolia
Cydonia oblonga
Eriobotrya japonica
Eriolobus trilobatus var. *trilobatus*
Fragaria viridis
Laurocerasus officinalis
Malus sylvestris subsp. *mitis*

Malus sylvestris subsp. *orientalis* var. *orientalis*
Mespilus germanica
Orthurus heterocarpus
Persica vulgaris
Potentilla anserina subsp. *anserina*
Potentilla recta
Prunus divaricata subsp. *divaricata*
Prunus divaricata subsp. *ursina*
Prunus spinosa subsp. *dasyphylla*
Pyrus amygdaliformis var. *amygdaliformis*
Pyrus communis subsp. *communis*
Pyrus syriaca var. *syriaca*
Rosa canina
Rosa centifolia
Rosa dumalis
Rosa foetida
Rosa hemisphaerica
Rosa montana subsp. *woronowii*
Rosa phoenicia
Rosa pimpinellifolia
Rosa pulverulenta
Rosa sempervirens
Rubus caesius
Rubus canescens
Rubus canescens var. *canescens*
Rubus canescens var. *glabratus*
Rubus discolor

Rubus idaeus
Rubus sanctus
Sorbus aucuparia

Sorbus domestica
Sorbus torminalis var. *orientalis*
Sorbus umbellata

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