

Medicinal plants used in Chaharmahal and Bakhtyari districts of Iran

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Summary

The folk herbal medicine among the ethnic communities Bakhtyari and Chaharmahali in Chaharmahal and Bakhtyari districts, South-West of Iran, was studied. A total number of 61 medicinal plant species belonging to 23 families are described. The most commonly represented families were *Lamiaceae* (18%), *Asteraceae* (13%), *Fabaceae* (11.5%) and *Apiaceae* (11.5%). Most of the uses were found to be new when compared with published literature on ethnomedicine of Iran. In general, inhabitants of the studied area still have a strong belief in the efficiency of medicinal plants. The results of the study reveal that some of species play an important role in primary healthcare system of these tribal communities.

Key words: ethnobotany, Bakhtyari and Chaharmahali tribal, medicinal plants

INTRODUCTION

Plants have always had an important role to play in medicine and public health. The knowledge on the use of medicinal plants was acquired by trial and error and handing on from generation to generation [6]. Nevertheless, handing down of this knowledge is in danger due to bad contacts between older and younger generations. Iran has a long medical tradition and traditional learning of medicinal plant [6]. Some authors have investigated the traditional pharmacopeia and medicinal plants in different areas of Iran [1-3, 6, 9-11, 15, 17]. However, no information is available on the medicinal plants of Bakhtyari and Chaharmahali communities and this is the first work on ethnobotanics in those districts, well known for the richness and diversity of medicinal plants and important suppliers of crude plant drugs for traditional Iranian medicine

[16]. In order to record all these medicinal knowledge, new or rare uses of medicinal plants and to record any use of plants in the region, the ethnobotanical survey of Bakhtyari and Chaharmahali of Iran is undertaken. The objectives of the study were: (i) to identify and document plant species used and obtain related quantitative data and (ii) to record traditional knowledge of use of these plants and the description of the most common preparations made from herbal drugs used in districts.

MATERIAL AND METHODS

Geographic and ethnic overview

Chaharmahal and Bakhtyari districts are situated in the South-West of Iran (fig. 1). These districts are principally mountainous and plains following the direction of Zagros range. The districts are bounded by Khuzestan province in the south, Isfahan province in the east and north and Lorestan province in the west (fig. 1). The studied area is located between latitude $31^{\circ}10'$ to $32^{\circ}45'$ N and longitude $49^{\circ}29'$ to $52^{\circ}34'$ E. It occupies an area of 10893 km². The elevation range is between 1009 m in the south to 4250 m in the western districts.

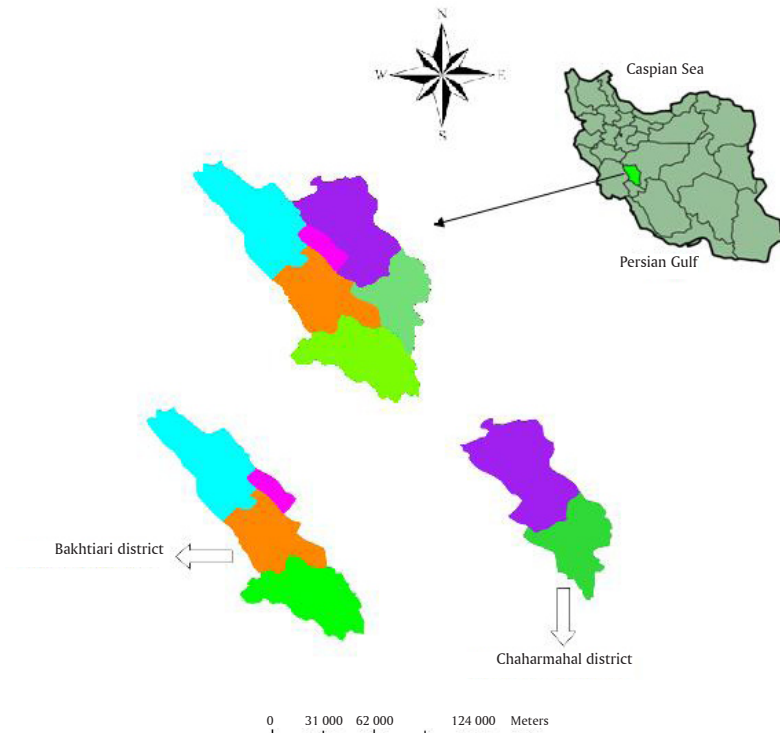


Figure 1. Location map of Chaharmahal and Bakhtyari Province, Iran (provided by author)

In this study, the Bakhtyari and Chaharmahali tribes of Bakhtyari and Chaharmahal districts were focused. These communities are the biggest ethnic groups in the region, mostly living in the southern and western parts of Chaharmahal and Bakhtyari districts. Most Bakhtyari and some of the Chaharmahali are traditionally nomadic. The language of Bakhtyari is Lori. The languages of Chaharmahali tribes are Persian and Turkish. The communities occupy themselves with sheepherding and farming.

Climate and vegetation types

The climate of major part of the region is influenced with its varied elevation. The average annual temperature come to 14.5°C in the south and 9.4° C in the west. In general, the annual precipitation reaches 240 mm in the east and 1433 mm in the west. There are snowfalls over 1500 m in winter, the minimum temperature can reach -24°C. In general, humidity is high especially in winter (December–March). The natural vegetation is rangeland in the central and north and oak forest in the south. The Chaharmahal and Bakhtyari districts have approximately 1072 plant species [16].

Data collection

A folk botanical survey was carried out from February 2006 to October 2007 in the Chaharmahal and Bakhtyari districts. The information was collected from 75 persons (20 men and 55 women) in 25 villages, mostly of the southern and western parts of the area. The local names, ailments and treated diseases, therapeutic effects and parts of plants used were obtained from local people [6, 8]. All collected specimens were identified with the help of regional floras. Voucher samples were also collected for each plant, identified by authors by floristic and taxonomic references [4, 5, 12, 13] and deposited at the Herbarium of Forests and Rangelands Research Institute of Iran.

RESULTS AND DISCUSSION

The results of the survey are presented in table 1. The therapeutic use against 51 diseases of 61 plants belonging to 23 families has been documented. Among them, 47 species are herbs, 7 species are shrubs and 7 species are trees. Leaves or mixed with other parts (33%) are the most widely used plant parts, followed by flowers (23%), resin and latex (8.5%), fruit (7%), root and rhizome (7%), seed (6%), stem (3.6%), bulb (2.4%) and in some cases the whole plant. Most of medicinal plants grew wild and only two species (3%) are cultivated in area either in gardens or fields (*Prunus amygdalus* L. and *Medicago sativa* L.). *Arnebia euchroma* (Royle.)

Johnsto, *Dracocephalum multicaule* Benth., *Fritilaria imperialis* L., *Hypericum scabrum* L., *Kelussia oderatassima* Mozaff., *Pistachia khinjuk* Stocks., *Prangos uloptera* DC., *Prangos ferulacea* L., *Satureja bachtiarica* Bung., *Tripleurospermum parviflorum* L. and *Thymus daenensis* Celak. are endemic (18%). The most commonly represented families are *Lamiaceae* (18%), *Asteraceae* (13%), *Fabaceae* (11.5%) and *Apiaceae* (11.5%). In present study, our ethnobotanical data were compared with those of Iranian medicinal plant literature [1-3, 6, 9-11, 15, 17].

Most of plants indicated by the interviewees are reported in Iranian literature [6, 10, 15, 17] but not in every occasion the actions attributed to a plant were the same. For example, the use of *Pistachio atlanta* Desf. as an analgesic for toothache, the use of *Prunus amygdalus* L. for cleaning eyes, the use of *Qurecus brantii* Lindl. for indigestion, the use of *Stachys lavandulifolia* L. for menorrhagia, the use of *Teucrium polium* L. in brucellosis and fever treatment, the use of *Glycyrrhiza glabra* L. for sore throat and *Fumaria* spp. for blood filtration and liver discords – all of them are not reported in official Iranian phytotherapy.

Allium hirtifolium, *Ziziphora tenuior*, *Arnebia euchroma*, *Astragalus adscendens*, *Bryonia dioica*, *Dracocephalum multicaule*, *Ducrosia anethifolia*, *Echinophora platyloba*, *Ferula ovina*, *Fritilaria imperilism*, *Heracleum lasiopetalum*, *Salvia hydragea*, *Hypericum scabrum*, *Kelussia oderatassima*, *Pistachia khinjuk*, *Prangos uloptera*, *Prangos ferulacea*, *Satureja bachtiarica*, *Tripleurospermum parviflorum*, *Thymus daenesis* are found to be new in the literature of Iranian medicinal plants.

In general, people of the studied area still have a strong belief in the efficiency and success of medicinal plants. The results of this study reveal that some of the plant species play an important role in the primary healthcare of these tribal communities. The wealth of these tribes' knowledge of medicinal plants points to a great potential for research and discovery of new drugs that can fight with diseases, obtaining new foods and other new uses. So, further scientific assessment of these medicines for phytochemical, biological and clinical studies is greatly needed. Interestingly, 11 (18%) species are endemic. This indicates that these species require conservation as well as pharmacological work. The conservation of the medicinal plants is an essential requirement for maintaining traditional medicine as a medicinal and cultural resource.

Table 1.

No.	scientific name	family name	local name	habit ^a	parts used	way of application	uses/aliments treated
1.	<i>Achillea keltaiensis</i> Boiss. and Hausskn. s. L.	Asteraceae	Golberenjaj	H	flowers	external/internal	wound, carminative, indigestion
2.	<i>Achillea wilhelmsii</i> C. Koch.	Asteraceae	Golberenjaj	H	flowers	external/internal	carminative, indigestion, gastric ulcer
3.	<i>Adiantum capillus-veneris</i> L.	Polypodiaceae	Parsiavoush	H	leaves	internal	cold, cough
4.	<i>Althagi Persarum</i> Boiss. and Buhse.	Fabaceae	Kharrshotor, Yandagh	H	stems, leaves	internal	Anti-calculous, kidney problems
5.	<i>Allium hirtifolium</i> Boiss.	Alliaceae	Mousir	H	bulbs	internal	edible as vegetable, flavoring, anti-hypertensive, antibacterial
6.	<i>Alcea</i> spp.	Malvaceae	Khatmi, Khatni	H	flowers, roots	external/internal	burn and cut wound, cough, sore throat, good hair condition
7.	<i>Alyssum</i> spp. Stead. Ex Boiss.	Brassicaceae	Chodomeh	H	fruit	internal	emollient, cough, sore throat
8.	<i>Anchusa italica</i> Retz. (L.) DC.	Boraginaceae	Golgavzaban	H	flowers	internal	green tea, anti-depressant, nerve system relaxant, anti-anxiety
9.	<i>Anthemis hyalina</i> DC.	Asteraceae	Babooneh	H	flowers	internal	carminative, anti-bacterial, anti-flatulent, good hair condition
10.	<i>Arnebia euchroma</i> (Royle.) Johnstono	Boraginaceae	Heveh joveh, Sorya	H	rhizome, root	external	burn wound, anti-eczematic
11.	<i>Astragalus adscendens</i> Bross. & Hausskn.	Fabaceae	Gazangabin	S	resin	internal	used in food and confectionery, tonic, body pain
12.	<i>Astragalus gossypinus</i> Fisch.	Fabaceae	Gavan, Gineh, (Katira)	S	resin	external	good hair condition
13.	<i>Astragalus hamosus</i> L.	Fabaceae	Nakhonak	S	whole plant	internal	carminative, astringent
14.	<i>Bryonia dioica</i> Jacq.	Cucurbitaceae	Fashra, Khashra	H	fruit, root	internal	digestive disorders, laxative, used in veterinary
15.	<i>Centurea depressa</i> M.B.	Asteraceae	Golgandom	H	flowers	internal	cough, digestive, cold, used in veterinary
16.	<i>Cichorium intybus</i> L.	Asteraceae	Kasni, Kashni	H	flowers, root	internal	carminative, fever, laxative
17.	<i>Crataegus oxyacantha</i> L.	Rosaceae	Zalzalak	T	fruit	internal	heart disorders, edible as wild fruit
18.	<i>Descurainia sophia</i> (L.) Prantle.	Brassicaceae	Khakeshi, Khakeshir	H	seeds	internal	laxative, gastralgia, fever
19.	<i>Dracocephalum multicaule</i> Montbr & Auch.	Lamiaceae	Zarrin giah, Zeravi	H	leaves, flowers	internal	sedative, analgesia, inflammatory, anti-bacterial, anti-septic, foot pain

20.	<i>Ducrosia anethifolia</i> L.	Apiaceae	Moshkak	H	whole plant	internal	antibacterial
21.	<i>Echinophora platyloba</i> DC.	Apiaceae	Khosharizeh	S	whole plant	internal	antifungal, spice and culinary
22.	<i>Echinops persicus</i> Stev. & Fisch.	Asteraceae	Shirighal	H	latex	internal	cough, cold, asthma
23.	<i>Ferula ovina</i> Boiss.	Apiaceae	Koma	H	resin	external	anti-bacterial, used in veterinary and industrial
24.	<i>Fritillaria imperialis</i> L.	Liliaceae	Laleh vaggon, Ashke matryam	H	bulbs	internal	rheumatism, diuretic
25.	<i>Fumaria</i> spp.	Fumariaceae	Shatareh	H	leaves	internal	tonic, dermal discords, blood filtration, toothache
26.	<i>Glycyrrhiza glabra</i> L.	Fabaceae	Mejo, Shirin bayan	H	root, resin	internal	gastric ulcer, digestive discords, sore throat
27.	<i>Heracleum lasiopetalum</i> Boiss..	Apiaceae	Goolpar, Kereson	H	fruit	internal	antiseptic, spice and condiment
28.	<i>Hyssopus augustifolius</i> M.B.	Lamiaceae	Zofa	H	leaves, flowers	internal	cough, asthma, anti-microbial
29.	<i>Hycosyamus kotschyamus</i> Pojark.	Solanaceae	Bang daneh, Kepakouti	H	seed	internal	sedative, analgesic, rheumatism
30.	<i>Hypericum scabrum</i> L.	Hypericaceae	Golraye dayhimi	H	leaves, flowers	internal	green tea, sedative, headache
31.	<i>Kelussia odoratissima</i> Mozaff.	Apiaceae	Kelus, Bakhtyari karafs	H	leaves	internal	edible as vegetable, flavoring, indigestion, rheumatism
32.	<i>Lepidium draba</i> L.	Brassicaceae	Mocheh	H	leaves	internal	edible as vegetable, culinary
33.	<i>Malva sylvestris</i> L.	Malvaceae	Panirak, Tooleh, Mamapir	H	leaves, flowers	external	burn and cut wound, cough
34.	<i>Medicago sativa</i> L.	Fabaceae	Yongeh	H	root	internal	fertility
35.	<i>Melilotus officinalis</i> (L.) Lam.	Fabaceae	Aklilolmolk	H	leaves	internal	anti-hypertensive, anti-coagulant
36.	<i>Mentha longifolia</i> (L.) Hudson.	Lamiaceae	Pooneh, Pineh	H	leaves, flowers	internal	edible as vegetable, flavoring, indigestion, cough
37.	<i>Myrtus communis</i> L.	Myrtaceae	Mord, Mort	T	leaves	external	skin discords, digestive discords, astringent, good hair condition
38.	<i>Nepeta persica</i> Boiss.	Lamiaceae	Poneh, Ponehasa	H	leaves, flowers	internal	carminative, digestive system
39.	<i>Onosma arenaria</i> Waldst. & Kit.	Boraginaceae	Golgavzaban	H	leaves, flowers	internal/external	burn and cut wound, nerve system relaxant
40.	<i>Origanum vulgare</i> L.	Lamiaceae	Marjan Joush	H	leaves, flowers	internal	cough, emollient, sore throat, kidney discords
41.	<i>Peganium harmala</i> L.	Zygophyllaceae	Spand, Sphand	S	fruit/seed	external	anti-microbial, anti-parasite
42.	<i>Pistachia atlantica</i> Desf.	Anacardiaceae	Baneh, Pesteh Koohi	T	resin, fruit	internal/external	indigestion, tonic, toothache, astringent

43.	<i>Pistachia khinjuk</i> Stocks.	Anacardiaceae	Kalkhong, Khenjuk	T	resin, fruit	internal/external	indigestion, tonic, toothache, astringent
44.	<i>Plantago major</i> L.	Plantaginaceae	Barhang, Bartang	H	seed	internal/external	cough, emollient, cough, sore throat
45.	<i>Plantago psyllium</i> L.	Plantaginaceae	Spharzeh	H	seed	internal/external	cough, emollient, cough, sore throat
46.	<i>Prangos ferulacea</i> L.	Apiaceae	Jooshir, Jhashir	S	leaves	external	anti-emetic, indigestion, antimicrobial
47.	<i>Prangos uloptera</i> DC.	Apiaceae	Kharkool	S	leaves	external	antimicrobial
48.	<i>Prunus amygdalus</i> L.	Rosaceae	Badam	T	seed oil	internal/external	cleaning eyes, eye pain
49.	<i>Quercus braniti</i> Lindl.	Fagaceae	Baloot, Balit	T	fruit	internal/external	anti-diarrheal, tonic, stringent, digestive disorders
50.	<i>Rheum ribes</i> L.	Polygonaceae	Rivas	H	leaves, root	internal/external	edible as vegetable, flavoring, jaundice, indigestion, skin disorders
51.	<i>Rumex pulcher</i> L.	Polygonaceae	Torshak	H	leaves	internal	culinary, diuretic, fat blood
52.	<i>Salvia haydragea</i> DC.	Lamiaceae	Gool ouroneh	H	leaves, flowers	internal	cough, emollient, sore throat
53.	<i>Satureja bachtiarica</i> Bung.	Lamiaceae	Marzeh Kooli	H	leaves, flowers	internal	edible as vegetable, flavoring, indigestion, cough, anti-bacterial
54.	<i>Seidlitzia rosmarinus</i> (Ehth.) Bge.	Chenopodiaceae	Eshnan	T	stem	external	used as washing
55.	<i>Stachys lavandulifolia</i> Vahl.	Lamiaceae	Lolopashmak, Chaye Kooli	H	leaves, flowers	internal	green tea, anti-bacterial, skin diseases, menorrhagia
56.	<i>Tanacetum polycephalum</i> (L.) Schultz-Bip.	Asteraceae	Mokhaleseh	H	leaves, flowers	internal	headache, migraine, sedative, fat blood, diabetes
57.	<i>Teucrium polium</i> L.	Lamiaceae	Chez Kooli, Kalporeh	H	leaves, flowers	internal	anti-febrile, diabetes, fever, brucellosis treatment, fat blood
58.	<i>Thymus daenensis</i> Celak.	Lamiaceae	Oushon, Avishan	H	leaves, flowers	internal	green tea, spice, culinary, cough, anti-bacterial, carminative
59.	<i>Tripleurospermum parviflorum</i> L.	Asteraceae	Babooneh kazeb	H	flowers	internal	antibacterial, anti-flatulent, digestive disorders
60.	<i>Utrica dioica</i> L.	Utriacaceae	Gazaneh	H	leaves, stems	external	diuretic, inflammatory, rheumatism, diabetic
61.	<i>Ziziphora tenuior</i> L.	Lamiaceae	Kakouti	H	leaves, flowers	internal	green tea, spice, culinary, anti-bacterial, carminative, anti-asthmatic

*Habit: T: Tree, S: Shrub, H: Herb

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ROŚLINY LECZNICZE UŻYWANE W REGIONACH CHAHARMAHAL I BAKHTYARI W IRANIE

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Streszczenie

Badano zastosowanie ziół leczniczych w medycynie tradycyjnej społeczności Chaharmahal i Bakhtyari w południowo-zachodnim Iranie. Opisano 61 gatunków roślin należących do 23 rodzin. Najliczniej reprezentowane były rośliny z rodzin *Lamiaceae* (18%), *Asteraceae* (13%), *Fabaceae* (11,5%) and *Apiaceae* (11,5%). Wielu z ich zastosowań nie opisano dotąd w dostępnej literaturze traktującej o medycynie ludowej w Iranie. Wyniki przedstawionych badań wskazują, że niektóre z gatunków odgrywają ważną rolę w podstawowym leczeniu w tych plemiennych społecznościach.

Słowa kluczowe: etnobotanika, wspólnoty Chaharmahal i Bakhtyari, rośliny lecznicze