



Research Article

MEDICINAL HERBS IN THE SHARR MOUNTAINS (MACEDONIAN PART)

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ABSTRACT

This paper aimed to study the medicinal herbal species in the Sharr Mountains, located in north-west of Republic of Macedonia. The material was collected during the vegetative period spring – fall (March 2013 – November 2015), and was prepared as the herbarium labeled with the collection sites, dates, biotope, etc. Results showed that within the area under study, out of the overall number of herbal species that were collected in the Sharr Mountains, which is 650, belonging to 73 families and 217 classes, 75 were medicinal herbal species.

Key words:

Medicinal, aromatic, vegetative, herbarium.

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INTRODUCTION

The massif of the Sharr Mountains is characterized by a huge variety of habitats for about 2,000 herbal species, or 2/3 of high vascular (heart) herbs in Macedonia. The flora of Sharr Mountain is very diverse and interesting, here, you can see species from arctic and sub-Mediterranean regions, this mountain is an important Balkan and European centre for floral endemism with nearly 200 endemic and sub endemic plant taxa. (1)

Of the 2,50,000 higher plant species on earth, more than 80,000 are medicinal. (2)

The oldest written evidence of medicinal plants' usage for preparation of drugs has been found on a Sumerian clay slab from Nagpur, approximately 5000 years old, it comprised 12 recipes for drug preparation referring to over 250 various plants, some of them alkaloid such as poppy, henbane, and mandrake, for Macedonia, St Clement and St Naum of Ohrid's work are of particular significance, they referred to the Nikeian pharmacological codex dating from year 850, and transferred his extensive knowledge on medicinal plants to his disciples and via them to the masses. (3)Macedonia is very rich in plant diversity, having approximately 3500 vascular plant species and according to data from local and neighboring countries, folk medicine there are more than 700 plants with medicinal properties, but only 150 species are used frequently. (4).

Medicinal plants belong to a big plant group with a great interest due to its pharmaceutical, cosmetic and nutritional application and they can provide biologically active molecules

and lead structures for the development of modified derivatives with enhanced activity and reduced toxicity, 121 chemical substances of known structure are still extracted from plants and are useful as drugs throughout the world, a large number of plants are used in traditional medical practices, and have been for more than 3000 years, such as in Chinese Traditional Medicine, Indian Traditional Medicine and there are some of the useful plant drugs vinblastine, vincristine, taxol, podophyllotoxin, camptothecin, digitoxigenin, gitoxigenin, digoxigenin, tubocurarine, morphine, codeine, aspirin, atropine, pilocarpine, capscicine, allicin, curcumin, artemesinin and ephedrine, in some cases, the crude extract of medicinal plants may be used as medicaments.(5)

Since some of the villages are situated at the level of beech forest zone, it makes the collection of these herbal species easier and this is why the women and children here are also active in collecting them. The collection of these herbs, along with other negative effects such as fires, erosion, deforestation, expansion of agriculture, etc., are all happening rapidly and are developing in an uncontrolled in an uncontrolled and non-standardized manner, thus causing destruction of natural populations of these species.

The aim of this study is to explore a richness of Sharr Mountain with medicinal plants and to represent these natural resources to the population of this area, and also by analyzing the chemical composition and the description of the therapeutic properties of this species we hope to increase the knowledge of population and interest of pharmacological investigations in this study area.

MATERIALS AND METHODS

The geographic position of the Sharr Mountains

This mountain massif is situated in the northwestern part of Macedonia and belongs to the region of Pollog, namely its western side. It represents an example of a mountain massif with a clear distinctive morphoplastic. (Fig. 1). It is part of the mountainous system of Sharr-Pind, namely belongs to Dinarides; it is exposed against climatic effects from the Adriatic and Aegean Sea; it is situated in the central part of the Balkan Peninsula.



Fig. 1 The geographic position of the Sharr Mountains in Macedonia

The Sharr Mountains comprises the largest mountain massif in Macedonia, being stretched between the following geographic coordinates: $42^{\circ}41'43''$ and $42^{\circ}16'34''$ of the northern geographic latitude and between $20^{\circ}34'51''$ and $21^{\circ}16'00''$ of the eastern geographic latitude. The system is about 80 km long and 10–20 km wide. (6)



The list of flora and its expansion has been compiled and general data related to the geomorphology, types of soils, climate and main herbal formations have been collected. (7)

According to the planned methodology, several expeditions have been carried out on site, whereupon the herbal material has been collected and the herbarium with the data such as location, altitude, date of preparation, has been prepared. (11)

Geological aspects of explored regions

Based on the geological aspect (8), schist, lime and magmatic rocks comprise the Sharr Mountains chain.

The chrome ore is closely related to the magmatic rocks in the Sharr Mountains, whereas iron ore appears in Bistra. As regards non-metals, there are large layers of plaster and qualitative marble near Gostivar.

Seen from the aspect of geological composition, the Paleozoic layers with large amounts of lime and dolomite dominate. The Bistra Mount consists of old Paleozoic rocks; there is also glacial relief, especially cirques.

Climate

The geographic position of the Sharr Mountains in the northwestern part of Macedonia, the domination of the mountainous relief, and the approximately meridian direction of its cleavage have determined two climatic types: continental and alpine. This mountain massif is situated in the middle geographic latitude of the northern hemisphere. The closeness to the Adriatic Sea affects the mountain massif of the Sharr Mountains.

The cold continental climate dominates the areas with an altitude between 550 and 1,000 meters, whereas in areas with altitude higher than 1,000 (1,000 – 1,700) meters there is a harsh alpine climate (9)

The continental climate is characterized by cold and wet winters and dry and hot summers. The alpine climate is characterized by long and cold winters with heavy snowfalls and short and cool summers.

Climatic characteristics are quite obviously expressed on daily, monthly, and yearly grounds, related to the obstacles that this mountain massif creates to western moist air masses that come from the Adriatic Sea. The data on climatic elements of this mountain massif have been taken from the hydro-meteorological station in PopovaShapka (Kodra e Diellit) for the observation period between 1961 and 1990. PopovaShapka (Kodra e Diellit), as a winter tourist resort in the Sharr Mountains, is situated at 1,450 meters altitude.

Plant collecting and preparing herbarium

We will describe a process of preparing herbarium specimens according to **Peter Giovannini** (10)(11) and this process include: collection of the plant material in the field, drying and pressing the plant specimens, botanical identification of the species and mounting the specimens. When you go out in the field we must have this basic equipment: notebook to record habitat and location information, pencils for writing, topographic maps and location information latitudes and longitudes, altimeter for measuring elevations, gardening gloves to prevent injury when handling irritating or thorny specimens, strong plastic bags for storing branches or carrying individually bagged collections; 18 ´ 41 cm (4-6 mil) is adequate for most plant material. During the collection of plant material must be taken into consideration several parameters: you must select specimens in good condition, free of insect damage, rust, ordisease, select plants with mature parts (well-developed leaves, stems, roots, flowers, and/or fruits or other reproductive structures), select specimens that represent the range of variation in the population, not just atypical specimens, collect entire plants when possible, even if

they are large (the plant can be divided for pressing), collect enough plant material from each species to fill two standard herbarium sheets (30 ´ 42 cm), collect at least stems, leaves, and flowers or fruit of herbaceous plants, and twigs, leaves, and flowers or catkins of trees and shrubs, collect extra flowers and fruit for later dissection, retain as much of the root system as possible, remove excess soil as it may cause disfiguration and deterioration of some plants, place all specimens of a single species from one locality into one collection bag, as each specimen is collected, assign a unique collection number. (11)

After collecting a plant material we need a plant press with straps, adsorbent papers, and old newspapers and after drying a material we need to identify the species using taxonomical keys and comparing with other specimens held in the herbarium, also we need a stereomicroscope for identification and collaboration with taxonomists. After plant identification two steps are very important: well-mounted: no overlap between plant parts, good position on the sheet and well-labelled: unique collecting number, only ecological and ethnobotanical data specific to the specimen, date and place of collection, species and family and who determined the species, collector's name. (11)

RESULTS AND DISCUSSION

The massif of the Sharr Mountains is characterized by a huge variety of habitats for about 2,000 herbal species, or 2/3 of high vascular (heart) herbs in Macedonia but my doctoral research work, entitled "Data on the flora, habitats and flora values in the Sharr Mountains", (12) includes 600 species belonging to 73 families and 217 classes, of which 75 (or 12.5%) are medicinal herbal species.

Medicinal plants play an important role in the development of human cultures around the world, some plants consider as an important source of nutrition and used as a treatment, as follows: *Synergic medicine*- the ingredients of plants all interact simultaneously, so their uses can complement or damage others or neutralize their possible negative effects, *support of official medicine*- in the treatment of complex cases like cancer diseases the components of the plants proved to be very effective and in *preventive medicine*- It has been

proven that the component of the plants also characterizes by their ability to prevent the appearance of some diseases, this will help to reduce the use of the chemical remedies which will be used when the disease is already present i.e., reduce the side effect of synthetic treatment. (13)

In the table below are presented the dates and locations for field work, medicinal plants, their bioform and floral element.

Realized expeditions

Diagram no. 1.

The diagram nr. 1 shows that of 74 medicinal species, the largest number of species are Hemicriptophyta- H - 35 species or 38%.

Medicinal plants are highly effective in the treatment of various diseases and here we will represent the chemical composition and medical action of each medicinal species of Sharr Mountain.

Abies alba L.

Contents: 49% bornil acetate, free borneol, pinene and terpene.

Medicinal properties: antibiotic, antiseptic and balsamic.

Achillea millefolium L.

Contents: achilline, vitamin K, tannin etc.

Usage: for external use in the form of bath for the treatment of purulent wounds, skin diseases, gum inflammation etc. also can be used for the treatment of varicose ulcers, eczema, frostbite etc. (19)

Anchusa officinalis L.

Action and usage: the leaves contain cinoglosine, choline, allantoin. The leaves are used in infusion form to the extent of 30-40 g per 1 liter of water. Dose: 3-5 tablespoons per day, while the flowers are used in tea form at 10 g per 1 liter of water.

Infusion of the leaves is used as an antidiarrheal, as a diuretic, depurative, stimulant sweating, relaxing. Infusion of flowers used for the treatment of cough (expectorant) dose 4-5 tablespoons per day. (19)

Nr.	Date, month, year	Locations
1.	26. 05. 2013	Village of Upper Pallçishte
2.	16. 06. 2013	Village of Lisec
3.	26. 05., 02. 06., 07. 07., 04. 08. 2013	Banja e Sellces
4.	06. 10. 2013	Kodra e Diellit (PopovaShapka)
5.	24. 05. 2013	Lajthiza (Leshnica)
6	01. 10. 2013	Maja e Diellit (TitovVrv)
7	02. 09. 2014	Village of Rogaçeva
8	10. 10. 2014	Luboten
9	11. 11. 2014	Village of Veshalla
10	25. 05. 2015	Village of Gajre
11	24. 05. 2015	Maja e Diellit (TitovVrv)
12	06. 06. 2015	Village of Shipkovic
13	07. 06. 2015	Village of Jellovjan
14	23. 06. 2015	Jellak, Cerepashina
15	27. 06. 2015	Village of Jellovjan, River Mazraça, Rakovec Lake
16	09. 07. 2015	Village of Breza, Tri Vodi Tearce
17	1. 8. 2015	Village of Bozofca
18	9. 08. 2015	Villages of Llakavica and Sermnova (Gostivar)
19	30. 08. 2015	Maja e Diellit (TitovVrv)
20	12. 09. 2015	Village of Varvara
21	24. 05. 2016	Bogovina Lake
22	04. 06. 2016	Black Lake
23	22. 06. 2016	Kodra e diellit, Maja e diellit (PopovaSapka, Titovrv)

Table 1 Medicinal And Aromatic Herbs In The Sharr Mountains (Macedonian Part)(14)(15)

Table no. 1 74 medicinal plant species

No.	FOOD PLANTS	Bioforma	Floral element
1.	<i>Abies alba</i> L.	Ph	EU.
2.	<i>Achilleamillefolium</i> L.	H	EU. SIB
3.	<i>Anchusaofficinalis</i> L.	T	Bal. End.
4.	<i>Ajugareptans</i> L.	H	EU. SIB.
5.	<i>Aspleniumadiantum-nigra</i> L.	G.	Paleotemp.
6.	<i>Bellisperenis</i> L.	H	EU. CAU.
7.	<i>Castanea sativa</i> Miller.	Ph	EU. AS. CAU. AFn
8.	<i>Capsella bursa-pastoris</i> Medic.	T	COSM.
9.	<i>Cardaminepratensis</i> L.	T	?
10.	<i>Ceterachofficinarum</i> Lam.	G	EU. AS.
11.	<i>Centauriumerythrea</i> Rafn.	T	Paleotemp.
12.	<i>Chelidoniummajus</i> L.	H	?
13.	<i>Clematis vitalba</i> L.	Liane	EU. CAU.
14.	<i>Cichoriumintibus</i> L.	H	COSM.
15.	<i>Crataegusmonogyna</i> Jack.	Ph	Paleotemp.
16.	<i>Cornus mas</i> L.	Ph	EU. AS. CAU.
17.	<i>Cornus sanguine</i> L.	Ph	EU. AS.
18.	<i>Colchicum autumnale</i> L.	G	Eu. Q.
19.	<i>Dryopterisfilix-mas</i> L. Schott.	G	Sub. COSM.
20.	<i>Dryasoctopetala</i> L.	Ch	EU AS N AM
21.	<i>Digitalis lanata</i> Ehrh.	H	Bal. End.
22.	<i>Digitalis grandiflora</i> L.	H	EU.
23.	<i>Daphne mezereum</i> L.	N. Ph.	EU. SIB.
24.	<i>Equisetum arvense</i> L.	H	?
25.	<i>Equisetum palustre</i> L.	H	Circumbor.
26.	<i>Erodiumcicutarium</i> L.	T	EU. Med-Pont.
27.	<i>Eryngiumcampestre</i> L.	H	EU. Med.
28.	<i>Euphorbia amygdaloides</i> L.	G	EU. CAU.
29.	<i>Fragaria vesca</i> L.	H	EU. SIB.
30.	<i>Hedera helix</i> L.	H	Sub. Med. Sub. Atl
31.	<i>Hypericum perforatum</i> L.	H	COSM.
32.	<i>Humulus lupulus</i> L.	N. Ph.	?
33.	<i>Juniperus communis</i> L.	Ph	Circumbor.
34.	<i>Juniperus oxicedrus</i> L.	Ph	EU Med
35.	<i>Juglans regia</i> L.	Ph	EU AS
36.	<i>Geum montanum</i> L.	H	?
37.	<i>Geum urbanum</i> L.	H	Circumbor.
38.	<i>Gentiana lutea</i> subsp. <i>Symphiandra</i>	H	EU
39.	<i>Leucantemum vulgare</i> (Vaill.) Lam.	H	EU SIB
40.	<i>Malva silvestris</i> L.	H	EU SIB
41.	<i>Matricaria camomilla</i> L.	H	?
42.	<i>Mentha longifolia</i> L.	H	COSM
43.	<i>Melilotus officinalis</i> (L.) Pallas	H	EU AS
44.	<i>Ononis spinosa</i> L.	Ch	EU Med
45.	<i>Origanum vulgare</i> L.	H	EU AS
46.	<i>Papaver rhoeas</i> L.	T	Med
47.	<i>Prunella vulgaris</i> L.	H	Circumbor.
48.	<i>Plantago lanceolata</i> L.	H	EU AS
49.	<i>Plantago major</i> L.	H	EU AS
50.	<i>Poterium sanguisorba</i> L.	H	EU AS
51.	<i>Primula veris</i>	H	Med EU
52.	<i>Prunus spinosa</i> L.	Ph	EU CAU
53.	<i>Polypodium vulgare</i> L.	G	Circumbor
54.	<i>Rubus idaeus</i> L.	N. Ph	Circumbor.
55.	<i>Rosa canina</i> L.	N. Ph	EU AS
56.	<i>Rubus ulmifolius</i> Schott.	N. Ph	EU Med.
57.	<i>Rumex acetosella</i>	H	Cicumbor.
58.	<i>Sambucus nigra</i> L.	Ph	EU CAU
59.	<i>Sambucus ebulus</i> L.	G	EU Med
60.	<i>Saponaria officinalis</i> L.	H	?
61.	<i>Sedum acre</i> L.	H	EU CAU
62.	<i>Sideritis scardica</i> Griseb.	H	Bal. End.
63.	<i>Sorbus aucuparia</i> L.	Ph	EU
64.	<i>Tiliacordata</i> L.	Ph	?
65.	<i>Tiliaplatisphyllos</i> Scop.	Ph	?
66.	<i>Teucrium pollium</i> L.	Ch	Med
67.	<i>Teucrium chamaedrys</i> L.	Ch	EU. Med.
68.	<i>Taraxacum officinalis</i> Web.	H	Circumbor.
69.	<i>Tusilago farfara</i> L.	G	Paleotemp.
70.	<i>Thymus longicaulis</i> Presl.	H	EU. Med.
71.	<i>Urtica dioica</i> L.	H	Sub. COSM.
72.	<i>Veratrum album</i> L.	G	EU
73.	<i>Viola odorata</i> L.	H	EU. Med.
74.	<i>Viola tricolor</i> L.	T- H	EU. AS.

PH- Phanerophyta, CH- Chamaephyta, H-Hemikriptophyta, N. Ph.- Nanophanerophyta, G- Geophyte, T-Terophyta(16)(17)(18)

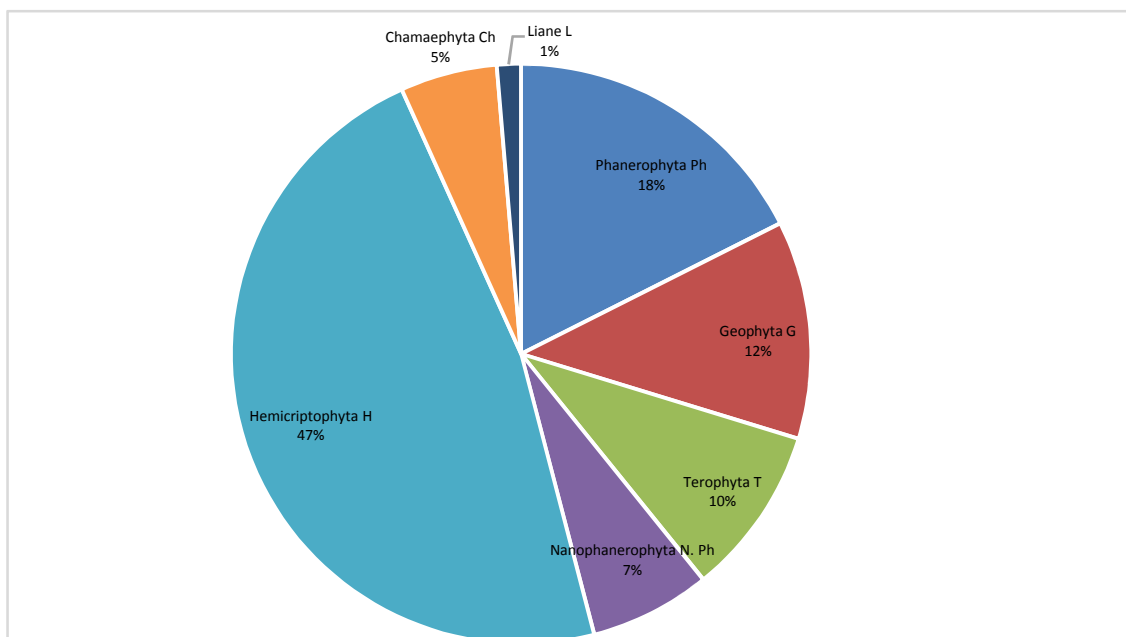


Diagram no. 1.

Ajuga reptans L.

Action and use: The stem of the plant contains alkaloids, while leaves and stoleness contains vitamin A. prepared with 30 g of crushed above ground parts and 1 liter of boiling water; heated 5 minutes, drained and stored in a bottle in a cool place. Dose: 3-4 tablespoons per day. Infusion is used as a styptic in different diseases such as stomach ulcers, tuberculosis, dysentery etc. (19)

Asplenium adiantum- nigra L.

Action and usage: the leaves are collected during the July-August and used as a drugs: 10 g per 1 liter of water. Dosage: for adults 3 cups of tea daily for 2-3 weeks. For children 3-4 tablespoons per day. Fluid obtained mainly used in children cough. Folk medicine and science uses this drug as a diuretic and stimulant for the extraction of stones from the kidneys.

Bellis perenis L.

Action and use: thanks to saponins, essence, mucilage, tannin, anthoxanthin, etc., drugs, thanks to the expectorant properties, it is recommended in lungs diseases and inflammation of the upper respiratory tract.

Castanea sativa Miller.

Properties: the dried leaves of chestnut, which contain tannin, mineral substances, vitamin E etc. They assist in the extraction of phlegm (expectorant effect) and calming the cough; this plant has antirheumaticproperties.

Preparation and use: one to three teaspoons of crushed drugs disposed in a container and adding a cup of boiling water, cover the container with a lid; content left 15 minutes, then drained tea and, optionally, sweetened. Drink 1 to 3 cups of tea per day.(20)

Capsella bursa - pastoris Medic.

Features: Drugs, thanks to amino alcohols (choline, acetylcholine, thiamine etc.). Flavonoid substance (diosmin, etc.), vitamin K. etc., help stopping bleeding from the uterus.

Use in large doses is toxic (poisoning occurs with paralysis of the nervous system).

Preparation: three teaspoon of crushed drugs with a half cup of boiling water; a container covered with a lid and left to rest 15 minutes; fluid drained and drink (sweetened) in an amount to two doses per day (for 10 days), before menstruation, reduce hemorrhage in uterine hemorrhage, etc .; also in cases of kidney sand and urinary tract diseases. (20)

Cardamine pratensis L.

Antirheumatic; antiscorbutic; antispasmodic; carminative; digestive; diuretic; stimulant.(21)

Ceterach officinarum Lam.

Features: drugs that constitutes tannin, organic acids, etc., have sedative, diuretic, expectorant effect.

Preparation and use: 10 g drugs crushed boiled for 30 minutes in a cup of water in sealed container with lid, left at rest 15 minutes and then drained and drink during the day. (sweeten with mint or anise).

CentauriumerythreaRafn.

Appetizer; aromatic; bach; bitter; cholagogue; diaphoretic; digestive; emetic; febrifuge; hepatic; homeopathy; poultice ; stomachic; tonic.(21)

ChelidoniummajusL.

Contents:different alkaloids with bactericide properties.

Use: anti-spasmodic activity reduces the pain of the liver, increases bile flow, calming the asthma crises, abdominal and gallbladder diseases.

Clematis vitalba L.

Contents:Saponins,triterpenoids, flavonoids, lignans, alkaloids,glycosidesetc. leaf contains vitamin A and flowers essence.

Features:The fluid prepared in the form of infusion is used in scabies diseaseetc. (19)

Cichoriumintibus L.

Contents: sugar, resin, tannin, inulin, a bitter taste glucoside called cichorine, etc. (20)

Features: Gastroprotective, anti-inflammatory, antioxidant, tumor-inhibitory activity etc.(22)

CrataegusmonogynaJack.

Contents: flavonoids, essential oil, triterpene-carbonic acids and purine derivatives, adenine adenosine and guanine.

Features: drugs used as antisclerotic, hypotonic and sedative, to empower the heart weakened by neural concerns, in strong heart attacks, difficulty in breathing, and in cases of hypertension. [7]

Cornus mas L.

Contents: organic acids, vitamin C.

Use: boiling of 100 g fruits with 300 ml water and a liquid is obtained which is used to stop diarrhea. (19)

Cornus sanguine L. Astringent; Emetic; Febrifuge.(21)

Colchicum autumnale L.

Contents: alkaloid colchicine.

Features: seeds used for the isolation of colchicine, which is used for the treatment of rheumatism and skin cancer. (20)

Dryopterisfilix- mas L. Schott.

Contents: mixture of polyphenols and tannins substances, essence, fat, sugars, etc.

Features: used to expel tapeworms (tenias) from humans and animals.(20)

DryasoctopetalaL.

Antidiarrhoeal; Astringent; Digestive.(21)

Digitalis lanataEhrh.

Features: contains heterozoidecardiotonics. (20)

Digitalis grandiflora L.

Features:contains heterozoideCardiotonics. (20)

Daphne mezereum L.

Contents: bark contains mezerein and daphnetoxin, umbelliferone, malic acid.

Properties: used as a purgative, diuretic, diaphoretic. In large amounts is toxic. (20)

Equisetum arvense L.

Contents:salicik acid, saponins, equisetonin, organic acids, etc. flavone glycosides.

Properties: stimulates the secretion of urine, kidney and urinary bladder, in heart disease related to water retention in the body. (20)

Equisetum palustreL. Diuretic and astringent (20)

ErodiumcicutariumL.

Content and properties:tannin, protein, fats, vitamin C and A. in folk medicine used as a hemostatic, calming abdominal pain and rheumatic pain. (19)

Eryngiumcampestre L.

Features: roots contains saponins, etc. which have properties essentially to increase urinating: for this is advised in urinary stones, in some skin diseases etc. (20)

Euphorbia amygdaloidesL.

Fragaria vescaL.

Features: dried leaves contain (tannins, little essence substance with lemon flavor, vitamin C, mineral salts, malic acid and salicylic etc.) Used for infections of the mucose of the intestine, in a disease of the kidneys, stones in urinary tract, and in cases of urinating blood(hematuria). (20)

Hedera helix L.

Features: it contains saponins, glycoside hederin,tannin.

Use: The leaves are used for skin irritation at high doses can give light poisoning. In small doses it cause the dilatation of blood vessels (vasodilatation), and in large doses causes vasoconstriction and slow heart rate (bradycardia). (20)

Hypericum perforatum L.

Properties: inhibits the growth of microbes (antiseptic) in lesion, burns in acne. Digestive tract diseases, liver, gallbladder, haemorrhages in the digestive tract and lung diseases, insomnia and kidney diseases.

Humulus lupulus L.

Content and properties: the essence has a calming effect on insomnia. (20)

Juniperus communis L.

Content and features:fruit of black juniper are used in catarrhal bronchitis and diseases that come from the cold, helping to lift the phlegm and relieve cough. (20)

Juniperus oxicedrus L. fruits of red juniper contains sugar, malic acid, formic, pyruvic, essence. The fruits are used in folk medicine as a diuretic, in heart diseases etc.

Juglans regia L.

Contents: tannins, alkaloids vitamin C, antibacterial substances.

Properties: the drug increases the secretion of gastric juice, improves appetite, constricts the arteries, helps in the treatment of damaged tissue.

Geum montanum L. antireumatic

Geum urbanum L.

Contents: glycoside and essence.

Features: Used in the treatment of various bleeding, diarrhea and dysentery.

Gentiana lutea L.

Contents: glycosides, sugars, fitosterine, alkaloids.

Features: used as stimulant of appetite, in anemia disease, liver disease, sclerosis, tuberculosis and diarrhea. Drugs promotes proliferation of red blood cells and white blood cells.

Leucanemum vulgare antispasmodic diuretic, tonic.

Malva sylvestris L.

Contents:tannin, vitamin A, B and C, potassium.

Properties: used to calm the respiratory irritations.

Matricariacamomilla L.

Contents: flower contains bitter substances, tannin, etc.
Drugs used as a tool that removes gases from the intestines and relieve spasms of the muscles of the soft intestines and stomach, anti-inflammatory urinary tract and as a means of perspiration, calms the nervous system and mucous membranes, to boils, burns, etc. . (20).

Menthalongifolia L. ?

Melilotusofficinalis(L.) Pallas

Contain different substances (coumarin, melilolin etc.) That have reverse action to the vitamin. K. drugs containing purine derivatives (alantoin, allantoinic and uric acid) flavonoid pigments,, tannins, etc.

Use: The drug increases the stability of blood vessels, improves brain blood circulation and venous circulation. (20)

OnonisspinosaL.

Contents:glucosides, saponin, fatty oil, alcohol, sucrose, etc. mineral compounds.

Properties, used to calm the pain of the urinary system especially kidney stones and cysts, as a diuretic used in metabolic disorders and liver diseases, rheumatism and some chronic skin diseases. (19)

Origanumvulgare L.

Contents: Oils, lipids, and minerals,tannins, alkaloids and vitamin C.

Features: used to improve blood circulation, diseases of the liver and gall bladder, migraine, insomnia and interstinal disorders. (20)

Papaverrhoeas L.

Contents: the drug contains alkaloid rhoeadine.
Rhoeadine is an alkaloid derived from the flowers of the corn poppy, it is used as mild sedative and mild antitussive.(23)

Prunella vulgaris L.

Health benefits of *Prunella vulgaris*:The whole plant is considered as alterative, antibacterial, antipyretic, antiseptic, antispasmodic, astringent, carminative, diuretic, febrifuge, hypotensive, stomachic, styptic, tonic, vermifuge and vulnerary, it was used as a tea in treatment of fevers, diarrhoea, sore mouth and internal bleedingand it is antibiotic and hypotensive.(24)

PlantagolancelataL.

Contents: salicylic acid, citric acid, vitamin C and K, and tannin.

Properties: the leaves are used in folk medicine in diarrhea, stomach pain, etc. also used in the treatment of wounds. (19)

PoteriumsanguisorbaL.

Constituents: beta-sitosterol, caffeic-acid, gallic-acid, kaempferol,tannin, coumaric-acid,quercetin, protein, carbohydrates, vanillic-acid. The plant is healing, tonic, styptic and cooling, having much the same medicinal qualities as the less tasty medicinal burnet.(25)

Primullaveris L.

Contents: contains saponins, oils and glycosides.
Properties:used in acute and chronic bronchitis. (20)

Prunusspinosa L.

Contents:contains glycosides.

Properties: diuretic, laxative effect especially for children. (20)

Polypodiumvulgare L.

Contents: rhizome contain butyric, hexoic, lauric and succinic acids. Features: expectorent, **cardio tonic, antispasmodic, antiepileptic.** (26)

Rubusidaeus L.

Contents: the leaves contain flavone, organic acids, vitamin C etc. The fruits contain salicylic, malic, citric acid, tartaric, sugars, vitamin. C etc.
Properties, used as a diuretic and smooth muscle stimulant (utero-tonic). (20)

Rosa caninaL.

Vitamins A,B,D,E and C; flavonoids; tannins; sugars; acids; pectin; carotenoids (lycopene).

Actions Anti-oxidant, astringent, anti-viral, diuretic.(27)

Rubusulmifolius Schott.

Contents: the leaves contain tannin, organic acids, pigments. The fruits contain sugar and organic acids.
Features: used in mouth infections, for the treatment of skin diseases and wounds that heal with difficulty. (20)

Rumexacetosella L.

Contents: contains vitamin A, B, C, tannins.
Properties: used to calm the irritation of the respiratory tract. (19)

Sambucusnigra L.

Contents: vitamin C provitamin A, B 6, sugar, saponins, tannins, etc.
Properties: diuretic properties and antireumatic. (20)

Sambucusebulus L.

Contents: malic acid, tartaric acid, essence, tannins, sugars.
Healing properties: Antioxidant activity, anticancer properties, antimicrobial activity. (28)

Saponariaofficinalis L.

Contents: saponins, gumand resin.
Healing properties, used in folk medicine to combat chronic jaundice and rheumatism etc. (20)

Sedum acre L.

Contents: in the leaves contains alkaloids, vitamin A, C, sugar, organic acids, etc.

Healing properties, used in folk medicine for hypertension and atherosclerosis. (20)

SideritisscardicaGriseb. (Reuseri).

Contents: Oils, bitter substances, tannins, etc.

Healing Properties: The grass is used as a folk medicine for easy colds and bronchitis. (20)

Sorbusaucuparia L.

Contents: fruits contain vitamin C, carotene, organic acids, alcohol, sugar.

Healing properties: Antirheumatic; diuretic; laxative. (20)

Tiliacordata L.

Content and healing properties: plant contain mucilage components, tannins, sugars, saponins etc. used in the treatment of respiratory diseases, gastrointestinal system disorders, diseases of the kidneys and bladder, tonsillitis and mouth diseases. (20)

Tiliaplatiphyllus Scop(This plant has the same content and features as *Tiliacordata L.*)

Teucriumpollium L.

Features: different classes of compounds have been isolated from various parts of *T. polium* of which the main groups are terpenoids and flavonoids, it has been found that these compounds possess a broad spectrum of pharmacological effects including antioxidant, anticancer, antiinflammatory, hypoglycemic, hepatoprotective, hypolipidemic, antibacterial and antifungal. (29)

Teucriumchamaedrys L.

Content and properties: tannins and essences, the flowering aerial parts are traditionally used as a folk medicine for dyspepsia, anorexia, nasal catarrh, chronic bronchitis, gout, rheumatoid arthritis, fever, uterine infections and to promote wound healing, more recently germander is used to reduce body weight. (30)

Taraxacumofficinale Web.

Content and properties: the most important compounds in dandelion are sesquiterpene lactones (believed to have antiinflammatory and anticancer effects), phenylpropanoids (believed to have inflammationmodulating effects), triterpenoidsaponins and polysaccharides (complex carbohydrates), major sesquiterpene lactones, generally occurring as glycosides (sugars), include taraxacosides, taraxacolides, dihydrolactucin, ixerin, taraxinic acids, and ainslioside. Phenylpropanoids (cinnamic acid derivatives) are plentifully present and include cichoric acid, monocaffeoyltartaric acid, 4-caffoeylquinic acid, chlorogenic acid, caffeic acid, and related compounds, inulin (a class of fibers known as fructans) is also present in large amounts in dandelion root. (31)

Tusilagofarfara L.

Content and features: mucilage, oils and fitoncide. Dried leaves and flowers easily calm the cough, phlegm extraction, and help in asthma crises. (20)

Thymus longicaulis Presle.

Content and properties: tannins, bitter substances, flavonoid substances, etc. helps in releasing the phlegm, increase the flow of gastric juice, to improve digestion, in respiratory diseases and cough. In the form of the drug used to treat festering wound. (20)

Urticadioica L.

Content and properties: The leaves contain tannin, formic acid, glukokine, vitamin. B2, A, C and K, pantotinic acid, potassium salts, etc. silicium and acetylcholine, histamine and serotonin, etc. It is used for stopping bleeding, in anemia, aids in the diabetes disease, as a tool that promotes secretion of milk etc. diseases of the liver and gallbladder. Drugs used externally to promote hair growth, anti-dandruff, for the treatment of eczema etc. (20)

Veratrum album L.

Contents: polifenolike substances

Healing Properties: Anthelmintic (20)

Viola odorata L.

Content healing properties: violin alkaloids that promotes vomiting, odoratinhypotensive alkaloids, saponins, salicylic acid. Saponins promote the extraction of phlegm and cough. Drugs such as diuretics, as ekspektorante, in cough and phlegm extraction, as a diuretic. (20)

Viola tricolor L.

Contents: saponins, salicylic acid derivatives, alkaloids violin, mucilage substances, tannin and flavone glycoside.

Healing Properties: diuretic, improves metabolism, especially in children who have acute skin rash of harmful excretion from the body, antirheumatic, etc. (20)

DISCUSSION AND CONCLUSIONS

This doctoral research work, entitled "Data on the flora, habitats and flora values in the Sharr Mountains", (12) includes 600 species belonging to 73 families and 217 classes, of which 75 (or 12.5%) are medicinal herbal species. However, just a few of these medicinal herbs can be used on daily bases. They are the ones, which are known to the local population and are harvested during their adequate harvesting periods. They can even walk tens of kilometers in search for these herbs, depending on the request and vegetative season. Currently, the process of collection of these kinds of herbs in the Sharr Mountain is not controlled and is not based upon any standards. This, of course, results in a loss of biodiversity values and economic damage. Many this means that there are two crucial moments when herb collectors tend to err and they are as follows:

- During the harvesting, the herbs are usually collected before they blossom or before their seeds become mature. The method of collection usually includes extraction rather than harvesting. Some of the herbs that are collected in this way are *Hypericum perforatum L.*, *Sideritis scardica Griseb.* etc.
- Usually, drying is not carried out under proper circumstances. Quite often, dried herbs lose their values because they are either too dry or have absorbed moisture. The scheme of the trading chain of medicinal herbs is almost the same everywhere in the country. There are individual collectors and regional ones, who motivate the cultivation of the named herbs depending on the needs of the market.

CONCLUSIONS

Based on the research work of domestic and foreign scholars, it is thought that there about 2,000 species as part of the flora of Sharr Mountains. The to-date processing of scientific materials consists of 600 species belonging to 210 classes and 89 families and the number of medicinal species is 74 or 12.5% of total number of species in Sharr Mountain. These data indicate a rich flora in the massif of Sharr Mountains, among which there is a large number of herbs with medicinal value. By analyzing and comparing the number of detected herbs during the scientific research, we could notice a large number of herbs with medicinal peculiarities. Further scientific research in the Sharr Mountains could enrich the range of medicinal herbs and also by analyzing the chemical composition and the description of the therapeutic properties of this species we hope to increase the knowledge of population and interest of collectors and pharmacological investigations in this study area.

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