

Ethnobotanical inventory of medicinal plants in Bulgaria

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Abstract

The paper reports on 73 medicinal plants of 30 families, traditionally used in Bulgarian phytotherapy. Some of the plants are applied in practice for the treatment of cardiovascular, gastrointestinal, respiratory, urogenital and other disorders. The popular plants used for treatment are growing in 20 forested regions in Bulgaria. © 2000 Published by Elsevier Science Ireland Ltd. All rights reserved.

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1. Introduction

Bulgaria is situated in the Balkan peninsula, South East Europe, between 22° 21' 40" and 28° 36' 35" E longitude, and 41° 14' 05" and 44° 12' 45" N latitude, occupies the area of 110 912 km² with elevations ranging from 0 to 2925 m and has corresponding subalpine, Mediterranean and continental climates (Fig. 1). The relief of the country is quite diverse ranging from plains to low hills and high mountains. The climate is moderate continental to modified continental, but in southern regions reflecting rather a strong Mediterranean influence. Normally, winter lasts about 3 months, spring and autumn are rainy and the summer is hot.

Despite intensive urbanization, a large part of population is engaged in agricultural activities.

About 17% of Bulgarian people are occupied with farming (Figs. 2 and 3).

The use of drugs prepared from medicinal plants in Bulgarian traditional medicine dates from centuries ago (Ahtarov, 1939; Kitanov, 1953; Iordanov et al., 1969). The healing effects of medicinal plants are mentioned in Hexäameron of John the Exarch (kept at the British museum). In spite of the progress of pharmacological technology, the memory of popular medicine still survives, and although it is no longer in common use, it remains, however, as a common heritage to be used when necessary. The information was collected from field notebooks followed by plant collections and compared with published literature (Iordanov et al., 1969; Petkov, 1982).

The aim of the present study is to review the activity of some medicinal plants and to explore the possibility of a fuller use of some Bulgarian medicinal plants.

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Fig. 1. The study area of Bulgaria.

2. Materials and methods

This study is based on data collected in the course of interviews taken from farmers, shep-

herds, local healers and old people who shared with us their knowledge about use of medicinal plants in folk medicine during the years 1994–1995 (Fig. 4). Sometimes the local healer has a special ritual—walking in hot charcoals, called ‘nestinarki’ (Fig. 5). They answered the questions about preparation techniques, recommended doses, ways of administration and healing properties of various parts of the plants (seeds, flowers, leaves, bark, etc.). The practical experience of these people proved to be very helpful for the second part of our research, i.e. the collection of plant specimens to be used in medical practice. These plant specimens were collected and identified following ‘Bulgarian Flora’ (Stojanov et al., 1967). Voucher specimens were deposited in the Herbarium of the Institute of Botany Bulgarian Academy of Sciences (SOM).

Infusions and decoctions are prepared according Pharmacopea X SSSR (Pharmacopea X, 1968).

Some of the recipes, liable to produce untoward side effect, should be made and used under the



Fig. 2. The typical woman in Bulgarian village.

direction of the traditional healers who can control their level of toxicity.

3. Results

The Bulgarian flora is remarkable for its diversity, 3500 plant species and 600 of them are known as medicinal plants. The most popular preparations are infusions and decoctions (the latter being more suitable for hard bark or roots). Medicated wine is also in common use, as the plant is macerated in sweet red wine or dry white wine for several days. Table 1 shows medicinal plants that are mostly used in Bulgarian traditional medicine, according to Kitanov (1953), Iordanov et al. (1969), Dimkov (1979) and Petkov (1982). Some of the important medicinal plants are shown in Figs. 6 and 7.



Fig. 3. Harvester.



Fig. 4. Healer collects medicinal plants.

4. Discussion and conclusions

The empirical knowledge of remedies based exclusively on plants has found support in the studies of Ahtarov (1939), Isaev et al. (1977), Dimkov (1979) and Petkov (1982).

As early as 1928 the method of the traditional healer Ivan Raev for treating Parkinson's disease with a wine decoction of belladonna roots (Fig. 8) achieved world fame. In the 1928–1933 period Raev's method was tested in many clinics in West European countries. After the efficiency of this healing was proved to excel the efficiency of all other remedies used in the therapy of Parkinson's disease, Raev's method was universally recognized under the name of *Cura bulgara* (Bulgarian healing).

The present results again confirm the usefulness of medicinal plants for modern therapy. Table 1 show that the medicinal plants from the families Asteraceae, Lamiaceae and Poaceae have a most common usage. Our investigation also revealed unknown favorable effects of some plants, such as *Atropa belladonna* L. (Leporatti and Pavesi, 1990), *Rosmarinus officinalis* L. (Leporatti et al., 1985a) and *Saturea hortensis* L. (Leporatti et al., 1985b). Special attention is given to some Bulgarian medicinal plants, for example, *Geranium macrorrhizum* L. as a hypotensive agent (Petkov and Ivancheva, 1969; Ivancheva et al., 1988), *Geranium sanguineum* L. (Ivancheva et al., 1992), *Innula helenium* L., and *Verbascum thapsiformae* Schrad. (Serkedjjeva et al., 1996)

as antiviral agents, *Arum maculatum* L. as an antihemorrhoid agent and *Verbascum thapsiforme* Schrad. as an expectorant (Petkov, 1982).

Today, as a result of studies on folk medicine remedies, many valuable drugs have found their place in contemporary medicine. A great deal of natural products of plant origin serve as prototypes of highly efficient synthetic drugs. Having also in mind that in contemporary medicine almost every group of drugs involves prototypes of plant origin, it becomes clear why a comprehensive strategy of struggle for newer and more efficient drugs considers the discovery of new biologically active compounds with potential healing properties in plants.



Fig. 5. Nestinarka—a local healer in special ritual.

Table 1
Medicinal plants used in Bulgarian phytotherapy

Plant (family, sp., voucher no.)	Part used	Medical use/disease treated	Formulation
Apiaceae			
<i>Anethum graveolens</i> L. SOM-55744	Fruits	Indigestion	Infusion
<i>Carum carvi</i> L. SOM-133925	Fruits	Carminative, spasmolytic, cholagogue, uterine disorders.	Infusion
<i>Coriandrum sativum</i> L.	Fruits	Diseases of gastrointestinal tract, as appetizer and carminative.	Maceration
<i>Foeniculum vulgare</i> Mill. SOM-142831	Fruits	Indigestion, carminative.	Maceration
<i>Heracleum sibiricum</i> L. SOM-646	Aerial parts	Appetizer, antidiarrhetic, diseases of the alimentary tract.	Infusion
<i>Levisticum officinale</i> L. SOM-5768	Roots	Diuretic, appetizer.	Decoction
<i>Pastinaca sativa</i> L. SOM-1207	Seeds or roots	Vasodilator, coronary-dilating, capillary-active agent.	Decoction
<i>Petroselinum hortense</i> L.	Leaves, seeds, roots	Diuretic, spasmolytic, abortion effect.	Maceration
Apocynaceae			
<i>Vinca minor</i> L. SOM-58395	Leaves	Hypotensive, astringent.	Infusion
Araceae			
<i>Acorus calamus</i> L. SOM-144042	Roots, rhizomes	Appetizer and antidiarrhoea.	Decoction
<i>Arum maculatum</i> L. SOM-10461	Tuber	Gastric hyperacidity, digestive, hemorrhoids and liver diseases.	Maceration
Aristolochiaceae			
<i>Asarum europaeum</i> L. SOM-54	Rhizomes	Sedative, expectorant and antitussive.	Infusion
Asteraceae			
<i>Artemisia absinthium</i> L. SOM-925	Leaves and flowers	Appetizer, indigestion, carminative and for mouthwash.	Infusion
<i>Artemisia vulgaris</i> L. SOM-931	Leaves and flowers	Appetizer, sedative and haemostatic.	Infusion
<i>Carlina acanthifolia</i> All. SOM-2102	Roots	Diuretic, urogenital antiinflammatory	Tincture
<i>Centaurea cyanus</i> L. SOM-2691	Flowery tops	Appetizer, tonic and diuretic.	Infusion
<i>Cnicus benedictus</i> L. SOM-94586	Aerial parts	Against gastric hyperacidity, ulcer.	Infusion
<i>Filaginella uliginosa</i> (L.) Opiz	Aerial parts	Against hypertension and ulcer.	Infusion
<i>Helichrysum arenarium</i> (L.) Moench SOM-2315	Flowers	Cholagogue, diuretic.	Infusion
<i>Hieracium pilosella</i> L. SOM-138162	Aerial parts	Diuretic, astringent.	Infusion
<i>Inula helenium</i> L. SOM-2556	Rhizomes	Antitussive, bronchial and throat affection.	Infusion
<i>Matricaria chamomilla recutita</i> (L.) Raush. SOM-142513	Flowers	Choleretic, gastric ulcer, gastritis, colitis, diseases of the respiratory tract, for throat and mouth wash, toothache.	Infusion
<i>Silybum marianum</i> (L.) Gaertn. SOM-136168	Seeds	Liver and gall and bladder diseases.	Infusion
<i>Solidago virgaurea</i> L. SOM-2063	Aerial parts	Diuretic and urinary disorders.	Infusion
<i>Tussilago farfara</i> L. SOM-125436	Leaves	Throat, catarrh, bronchitis, laryngitis, pulmonary emphysema, silicosis and tubercular coughs.	Infusion
Berberidaceae			
<i>Berberis vulgaris</i> L. SOM-806	Bark, roots, fruits	Cholecystitis, indigestion, diarrhoea, dysentery.	Decoction
Betulaceae			
<i>Alnus glutinosa</i> (L.) Gaerth. SOM-136210	Bark	Astringent, antidiarrhetic, dysentery.	Tincture
<i>Corylus colurna</i> L. SOM-16116	Leaves and bark	Hypotension, prostatitis.	Infusion

Table 1 (Continued)

Plant (family, sp., voucher no.)	Part used	Medical use/disease treated	Formulation
Boraginaceae			
<i>Pulmonaria officinalis</i> L. SOM-323	Aerial parts	Expectorant, antitussive.	Infusion
Brassicaceae			
<i>Armoracia rusticana</i> P. Gaertner.	Rhizomes	Appetizer	Fresh state
Caryophyllaceae			
<i>Herniaria glabra</i> L. SOM-43474	Aerial parts	Diuretic, spasmolytic.	Infusion
Equisetaceae			
<i>Equisetum arvense</i> L. SOM-137628	Aerial parts	Diuretic, antiseptic, in haematuria.	Decoction
Fabaceae			
<i>Gleditsia triacanthos</i> L. SOM-90393	Leaves	Gastric and duodenal ulcer, colitis and cholecystitis.	Infusion
<i>Glycyrrhiza glabra</i> L. SOM-139497	Roots	Diuretic, laxative, gastric disorders.	Infusion
<i>Ononis spinosa</i> L. SOM-151207	Roots	Diuretic, kidney stones, urinary inflammation.	Decoction
Gentianaceae			
<i>Gentiana lutea</i> L. SOM-137111	Aerial parts	Appetizer, energiser for inflammation of gastric secretion.	Maceration
Menyanthaceae			
<i>Menyanthes trifoliata</i> L. SOM-125030	Leaves	Appetizer, purgative, gastric disorders.	Decoction
Geraniaceae			
<i>Geranium macrorrhizum</i> L. SOM-131398	Rhizomes	Hypotensive agent, central depressive, cardiotoxic and spasmolytic.	Lyophilisate
<i>Geranium sanguineum</i> L. SOM-131327	Roots	Antivirus agent, immunostimulant, hypotensive agent.	Lyophilisate
Hippocastanaceae			
<i>Aesculus hippocastanum</i> L.	Flowers, fruit	Astringent, phlebitis.	Tincture
Lamiaceae			
<i>Marrubium vulgare</i> L. SOM-35	Aerial parts	Cholecystitis, hepatitis, menstrual disorders.	Maceration
<i>Mentha pulegium</i> L. SOM-3073	Leaves	Indigestion, jaundice, liver diseases, gastric disorders.	Infusion
<i>Origanum vulgare</i> L. SOM-3025	Aerial parts	Antitussive, expectorant, sedative, choleric, cholagogue.	Infusion
<i>Rosmarinus officinalis</i> L. SOM-104757	Leaves	Digestion, diuretic, spasmolytic, choleric.	Infusion
<i>Satureja hortensis</i> L. SOM-63647	Aerial parts	Gastric and digestive disorders, diuretic, liver diseases.	Infusion
<i>Sideritis scardica</i> Griseb. SOM-61153	Aerial parts	Expectorant, pulmonary emphysema, angina pectoris.	Infusion
<i>Teucrium chamaedrys</i> L. SOM-860	Aerial parts	Indigestion, gastric disorders, antimicrobial.	Infusion
<i>Thymus sp. diversus</i> L.	Aerial parts	Antitussive, antiseptic for the mouth and throat, antiinflammatory agent in digestive tract diseases.	Infusion
Liliaceae			
<i>Allium ursinum</i> L. SOM-92131	Aerial part	Atherosclerosis	Fresh state
<i>Veratrum lobelianum</i> Bernh. SOM-11394	Rhizomes	Hypotensive	Tincture
Linaceae			
<i>Linum usitatissimum</i> L. SOM-90447	Seeds	Gastric ulcer, gastritis and urinary disorders.	Maceration

Table 1 (Continued)

Plant (family, sp., voucher no.)	Part used	Medical use/disease treated	Formulation
Malvaceae			
<i>Althaea officinalis</i> L. SOM-1935	Roots	Antitussive, bronchitis and pharyngitis.	Decoction
<i>Malva sylvestris</i> L. SOM-2956	Leaves	Antitussive, cholagogue, cystitis, intestinal colics.	Infusion
Oleaceae			
<i>Fraxinus ornus</i> L. SOM-133290	Bark	Astringent, antihemorrhage.	Infusion
Papaveraceae			
<i>Chelidonium majus</i> L. SOM-648	Aerial parts	Cholagogue, diuretic, liver disorders.	Infusion
<i>Fumaria officinalis</i> L. SOM-134902	Aerial parts	Cholagogue, antispasmodic, hypotensive.	Maceration
<i>Glaucium flavum</i> L. SOM-769	Aerial parts	Antitussive	Tincture
Polygonaceae			
<i>Rheum palmatum</i> L.	Roots	Laxative	Decoction
Primulaceae			
<i>Primula officinalis</i> L. SOM-134843	Rhizomes	Expectorant, inflammation of the lungs.	Decoction
Ranunculaceae			
<i>Helleborus odorus</i> Waldst. et Kit SOM-134768	Roots	Cardiotonic	Infusion
Rhamnaceae			
<i>Frangula alnus</i> L. SOM-108772	Bark	Laxative	Decoction
<i>Rhamnus cathartica</i> L. SOM-152272	Fruits	Laxative, liver diseases.	Maceration
	Fruits	Antiseptic for wounds.	Infusion (external)
Rosaceae			
<i>Agrimonia eupatoria</i> L. SOM-146595	Aerial parts	Astringent, antidiarrhetic, antiinflammatory agent in urinary diseases and liver.	Infusion
<i>Crataegus monogyna</i> Jacq. SOM-14205	Leaves, flowers, fruits	Cardiovascular diseases, myocarditis, ischemia, antidiarrhetic.	Infusion
<i>Geum urbanum</i> L. SOM-40068	Roots	Antiinflammatory, antidiarrhetic, antimicrobial.	Decoction
<i>Potentilla erecta</i> L. SOM-139116	Roots	Antiinflammatory in gastric and digestive diseases, antidiarrhetic, antiseptic for the mouth and throat.	Infusion
<i>Rosa damascena</i> L.	Flowers	Laxative, cholecystitis, paradontosis.	Oil
<i>Rubus</i> sp.	Leaves, fruits	Astringent, antibacterial.	Maceration
Scrophulariaceae			
<i>Linaria vulgaris</i> Mill SOM-134047	Aerial parts	Laxative, diuretic.	Infusion
<i>Verbascum thapsiforme</i> Schrad. SOM-151256	Leaves	Expectorant, in cases of laryngitis, pharyngitis, bronchitis and whooping cough.	Infusion
<i>Veronica officinalis</i> L. SOM-133027	Aerial parts	Bronchitis, asthma, coughs and tonsillitis.	Infusion
Solanaceae			
<i>Atropa belladonna</i> L. SOM-151644	Leaves, flowers, roots	Spasmodic, in Parkinson's disease.	Tincture
Violaceae			
<i>Viola tricolor</i> L. SOM-149729.	Aerial parts	Expectorant, bronchitis, atherosclerosis.	Infusion

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