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Ethnobotanical research of the medicinal plants in Balchik Municipality (Bulgaria)

Dimcho Zahariev¹, Vanya Radeva²

¹University of Shumen Bishop Konstantin Preslavski,

Faculty of Natural Sciences,

115 Universitetska Str., 9700 Shumen, Bulgaria

²University Botanical Garden, Sofia University “St. Kliment Ohridski”,

1 Akademik Daki Yordanov Str., 9600 Balchik, Bulgaria

Abstract: *Studies of medicinal plants have been conducted in many municipalities and regions in Bulgaria, but only species diversity has been studied. Data from ethnobotanical studies in Bulgaria are scarce. The conducted ethno-botanical study of medicinal plants on the territory of Balchik municipality is performed for the first time. As a result, we found that the population of the municipality uses a small part of the medicinal plants: 89 species out of a total of 845 medicinal plants in Bulgaria. Medicinal plants are used mainly for side applications (71%) and to a lesser extent for medicinal purposes (29%). Urban and rural populations use almost the same number of medicinal plants. There are significant differences in the number of plants used by different ethnic groups, age groups and groups with different levels of education. Women use more medicinal plants in human medicine, and in applications for other purposes, more plants are used by men. Most medicinal plants are used by people of active age. The people of Balchik Municipality use for various purposes mostly cultivated medicinal plants, rather than wild and mostly alien species, than native ones. The majority of respondents (78%) do not use medicinal plant substitutes. Most of the people (92.5%) are not aware of the shortcomings of the medicinal plants or the possible side effects of their use.*

Keywords: ethnobotany, human medicine, traditional and folk medicine, medicinal plant use

Introduction

The municipality of Balchik is located in the easternmost, coastal part of the Danube Plain and the Dobrudzha Plateau, occupying the southeastern part of the Dobrich Region (Figure 1). According to data from the Municipal Development Plan of Balchik Municipality [1], the total area of the territory is 523,488 decares. The settlements in Balchik Municipality are 22 in number: the municipal town of Balchik and 21 villages.

Figure 1. Geographical location of Balchik Municipality (marked with an asterisk)

The population of the municipality is 20,317 people as of February 1, 2011. Of these, 11,610 people live in the town of Balchik and 8,707 people live in the villages in the municipality [2]. The municipality of Balchik differs in its ethnic structure from that of the country and district. As a percentage, the Bulgarian ethnic group is below the national and regional averages, while the Turkish and Roma ethnic groups differ by a higher percentage. The age structure of the population in the study area is of a regressive type, with the exception of the villages Strazhitsa and Trigortsi. The pattern observed in them is mainly due to the specific ethnic structure of their population, which is dominated by the Roma ethnic community [1]. In the municipality of Balchik there is a large degree of equalization in terms of the number of men and women: in 2011, men were 10,113 and women were 10,119 in number. In terms of the educational structure of the population, the share of people with higher and secondary education in the municipality is below the national average and Dobrich region. At the same time, there is a tendency to increase the relative share of the population with primary and incomplete education. As of February 1, 2011, the number of employed economically active persons in the 15-64 age group is 6 481 people [2].

To date, no ethno-botanical survey has been conducted on the territory of Balchik Municipality. Data for a similar survey at the municipal level in Bulgaria were found only for the municipality of Ispirih (Northeastern Bulgaria) [3]. Ethnobotanical studies on the Northern Black Sea coast, the region in which the municipality of Balchik is located, was conducted by Boycheva and Marinova [4], Boycheva and Kosev [5], Boycheva and Zahariev [6], Cherneva et al. [7, 8, 9].

Materials and methods

This survey was conducted using the survey method in the period 2015-2016. A special questionnaire was created. It consists of 4 pages and includes data on the person interviewed and 6 groups of questions that focus on the application of medicinal plants in human medicine, as well as in 15 other areas of human's life.

The territory covered by the survey is Balchik Municipality and includes 1 town and 21 villages. The interviewed people are from different size settlements, with different ethnicity, age, gender, education and employment.

The Bulgarian scientific names of the plants are according to Handbook for Plants in Bulgaria [10], Flora of the PR Bulgaria, volumes from 1 to 9 [11, 12] and Flora of the Republic of Bulgaria, volume 10 [13] and volume 11 [14]. The Latin scientific names are from the Conspectus of the Bulgarian vascular flora [15]. The abbreviations of the author's names are according to the International Plant Names Index [16]. The Latin names of the families are according to the Angiosperm Phylogeny Group [17]. Information on poisonous plants is by Bernhard-Smith [18], Hiller and Bickerich [19], Wagstaff [20].

Results and Discussion

As a result of the conducted survey, among 241 residents of Balchik Municipality, we found that they used a total of 89 species of medicinal plants belonging to 78 genera and 41 families. Compared to the data obtained by Kültür and Sami [3] for medicinal plants used by the residents of the Ispirih Municipality (68 species from 32 families), the number of species used in the Balchik Municipality is higher by 21 species. The explanation for this is that the ethnobotanical survey in the Ispirih municipality covers only plants used by the local population for medicinal purposes. In our survey, we included not only the application of medicinal plants in human medicine, but also in various areas of human's life.

Friends (28%) are the main source of information on the use of medicinal plants in human medicine, and a small proportion of information on their use is obtained from physicians (0.5%). Relatives (40%) are the main source of information on the use of medicinal plants for other purposes. It is surprising that television

(0.05%), newspapers (0.2%) and books (0.25%) have almost no influence as sources of information on the use of medicinal plants.

The percentage of people using medicinal plants in human medicine is approximately the same in Balchik and in the villages: 6.22% and 6.64% respectively. A much larger percentage of people use medicinal plants for other purposes. Here again the difference between urban and rural population is again small: the percentage is 42.74% and 44.4% respectively. The small difference we found can be explained by the fact that 80% of the population of the town of Balchik live in the residential districts "Levski" and "Balik", which were declared in the place of the village of Vasil Levski, and retained many of customs and customs typical of villages.

The study in different ethnic groups shows that Bulgarians use more medicinal plants (58%, of which 7.5% in human medicine and 50.5% for other purposes), followed by the Roma population (27%, of which 4.5% in human medicine and 22.5% for other purposes) and the Turkish population (15%, of which 4.2% in human medicine and 10.8% for other purposes) (Figure 2).

Figure 2. Percentage of use of medicinal plants by ethnic groups

Here there is a significant discrepancy between the number of people along ethnic lines and the used medicinal plants. The Roma population is predominant in the municipality, but uses fewer medicinal plants than Bulgarians and Turks. This is due to the forgetting and changing of the customs and rituals characteristic of the Roma ethnic group. In the region, most Roma identify as Turks, but on the other hand, are not familiar with the Turkish customs.

The highest percentage of respondents and most herbs used by people in the age groups 41-50 years (26%) and 51-60 years (27%). The number of people and the medicinal plants used by them in the age groups of 31-40 years (16%) and 61-70 years (18%) is relatively high. With decreasing or increasing age, the number

of people using medicinal plants and the number of plants used by them decreases. To the smallest and smallest extent, medicinal plants are used by humans up to the age of 20 (only 1% of respondents) and people over 71 (3% of respondents) (Figure 3).

As a result of the survey we found that for use in human medicine, women use much more medicinal plants than men: 67.0% versus 14.8%, respectively. When using herbs for other applications outside human medicine have lead men: 85.2% of them use medicinal plants for a wide variety of applications.

Respondents with secondary education use most medicinal plants (44%), following by people with primary (28%) or higher education (18%). People with elementary education use the least medicinal plants (12%). The difference between the groups of respondents according to employment: students (1.66%), employed (51.87), unemployed (34.44%) and pensioners (10.79%) is also significant.

The people in Balchik Municipality use a greater number of cultivated medicinal plants - 54 species (60.7%) than the wild - 35 species (39.3%).

Figure 3. Percentage of use of medicinal plants by age groups

The number of foreign species among used medicinal plants is considerable - 52 species (58.4%). There are several reasons for this. First of all, many of the foreign medicinal plants used are cultivated as crops mainly for food (18 species in number): *Allium cepa* L., *A. sativum* L., *Citrullus lanatus* (Thunb.) Matsum. & Nakai, *Cydonia oblonga* Mill., *Ficus carica* L., *Hordeum vulgare* L., *Prunus armeniaca* L., *Spinacia oleracea* L., *Zea mays* L. and others. Other plants are important spices (12 species in number): *Anethum graveolens* L., *Apium graveolens* L., *Levisticum officinale* W.D.J.Koch, *Ocimum basilicum* L., *Petroselinum crispum* (Mill.) Nyman, *Rosmarinus officinalis* L., *Satureja hortensis* L. and others. *Medicago sativa* L. is an important forage plant. Important essential oil plants are: *Pimpinella anisum* L. and *Lavandula angustifolia* Mill. *Nicotiana tabacum* L. is produced for the production of cigarettes. Many species are cultivated for decorative purposes (16 in number): *Aloe arborescens* Mill., *Buxus sempervirens* L., *Calendula*

officinalis L., *Maclura pomifera* (Raf.) C.K.Schneid., *Pelargonium roseum* Willd., *Salvia officinalis* L., *Tagetes tenuifolia* Kunth and others. *Robinia pseudoacacia* L. is grown for forestry purposes.

The native species of medicinal plants are 37 species (41.6%). Among them, 26 species are wild, 9 species are both wild and cultivated and 2 are cultivated only. Of the native species, 6 species are grown for food: *Brassica oleracea* L. var. *capitata* L., *Juglans regia* L., *Rumex patientia* L., *Vitis vinifera* L. and others. *Mentha spicata* L. is cultivated as a spice. For decorative purposes are grown: *Galanthus nivalis* L., *Geranium macrorrhizum* L. and others.

A large part of the medicinal plants mentioned in the ethnobotanical survey - 57 species (64%) find application in both official and folk medicine in Bulgaria. In traditional medicine alone, 32 species of established medicinal plants are used in our country (36%). These are, for example: *Buxus sempervirens* L., *Citrullus lanatus* (Thunb.) Matsum. & Nakai, *Pyrus pyrausta* (L.) Burgsd., *Tagetes tenuifolia* Kunth.

Among the used medicinal plants, approximately half: 43 species (48.31%), are poisonous to varying degrees: from low (when exceeding the recommended dose) to highly (lethal) poisonous. 21 species are slightly poisonous: *Achillea millefolium* L., *Aesculus hippocastanum* L., *Allium cepa* L., *Allium sativum* L., *Aloe arborescens* Mill., *Arctostaphylos uva-ursi* (L.) Spreng., *Hypericum perforatum* L., *Levisticum officinale* W.D.J.Koch, *Melissa officinalis* L., *Ocimum basilicum* L., *Origanum vulgare* L., *Rosmarinus officinalis* L., *Salvia officinalis* L., *Sambucus nigra* L. and others. Contact dermatitis can cause 10 other species: *Calendula officinalis* L., *Cornus mas* L., *Ficus carica* L., *Matricaria chamomilla* L., *Medicago sativa* L., *Urtica dioica* L. and others. Toxicity data are available for 10 species: *Chelidonium majus* L., *Cotinus coggygria* Scop., *Galanthus nivalis* L., *Ginkgo biloba* L., *Maclura pomifera* (Raf.) C.K.Schneid and others. Very poisonous are two species: *Buxus sempervirens* L. and *Nicotiana tabacum* L.

In most cases (Figure 4), among medicinal plants parts use stems (35% of all species) and leaves (30% of species). Second in popularity with 14% each are flowers and fruits. The use of seeds is quite limited: only 6% of these plants. Roots are used by only 1% of medicinal plants.

The distribution of the used plant parts for the various applications (both medicinal and other applications) is as follows: The whole plant is used for decorative purposes in 13 species (Appendix Table). Roots are used from 3 species of medicinal plants, wood - from 11 species, stems (from herbaceous plants) - from 1 species, branches - from 1 species, stems - from 19 species, leaves - from 23 species, flowers - from 17 species, fruits - from 18 species, seeds - from 9 species, cones - from 2 species.

The most common medicinal plants are used in a particular season (55%). Daily use is second with 31%. The following are applications once a year (6%), less than once a year (5%), once a month (2%) and once a week (1%). Seasonal use is of the greatest importance because the respondents use many of the

medicinal plants in different national customs, for making drinks (teas), for preparing food from the leaves of spring plants, etc.

Figure 4. Parts of medicinal plants used by the population of Balchik Municipality (in percentages)

A very small percentage of medicinal plants are used for medicinal purposes (29%). A much larger percentage (71%) find other applications (Figure 5).

Respondents indicated that they preferred to collect the plants used for medicinal purposes alone (47%) or, if possible, to grow them in their yards (33%). It is noteworthy that a very small percentage of respondents (14%) buy medicinal plants as a completely ready-to-use product, and an even smaller percentage (6%) buy them from the market, drugstores or pharmacies as herbs to prepare the necessary medicine.

Figure 5. Other applications of medicinal plants:

1. In veterinary medicine; 2. For cosmetic purposes; 3. For culinary purposes;
4. For pet food; 5. For grazing of bees; 6. For decorative purposes;
7. For coloring; 8. As a pesticide; 9. For the manufacture of articles; 10. For construction;
11. For heating; 12. For sale; 13. For weather forecasting;
14. In folk traditions and customs

When using medicinal plants for other purposes (outside of human medicine), the situation with the sources is different: 41% of the respondents cultivate the plants they need, 37% use them as a finished product and 21% cultivate them alone. Since only veterinary applications are related to side applications, the low number of people (1%) who buy herbs for the preparation of pet medicines is explained.

A very large percentage of respondents (78%) state that there are no substitutes for the medicinal plants they use, whether they are used for treatment or for other purposes. The number of people who use natural or artificial substitute for medicinal plants is equal - 11% in each case.

Only 18 of the respondents (7.5%) indicated deficiencies of medicinal plants used in human medicine. They are mostly taste and olfactory. Tasty disadvantages have following species: *Allium cepa* L., *Aloe arborescens* Mill., *Armoracia rusticana* G.Gaertn., B.Mey. & Scherb., *Cotinus coggygria* Scop., *Ginkgo biloba* L., *Sambucus nigra* L., *Urtica dioica* L. The respondents indicate olfactory disadvantages for following species: *Allium cepa* L., *Ficus carica* L., *Maclura pomifera* (Raf.) C.K.Schneid. Two types have disadvantages related to touch: *Armoracia rusticana* G.Gaertn., B.Mey. & Scherb. and *Ficus carica* L. According to the surveyed aesthetic shortcomings there are two species: *Allium cepa* L. and *Juglans regia* L.

Conclusion

The population of Balchik Municipality uses a small part of the medicinal plants that occur on the territory of the country. The majority of respondents do not use medicinal plant substitutes, whether used for medicinal purposes or for other purposes. Most people are not aware of the drawbacks of medicinal plants or the possible side negative effects of using them. Getting acquainted with the wealth of medicinal plants in the area of Balchik Municipality will not only support the lifestyle and culture of the population, but will also help to develop tourism, which is a major livelihood in the region. It is necessary to continue the research of medicinal plants in the municipality of Balchik in order to collect information on species diversity, resources and identify measures for the conservation of their natural habitats.

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Appendix

Table. Usable part and application of the medicinal plants identified in the survey

No	Scientific name	Family	Local name	Usable part	Application
1	<i>Achillea millefolium</i> L.	Asteraceae	Byal ravnets	Stalks	Medicinal, Veterinary Medicine
				Flowers	Medicinal
2	<i>Aesculus hippocastanum</i> L.	Sapindaceae	Konski kesten	Fruits	Medicinal
3	<i>Allium cepa</i> L.	Amaryllidaceae	Kromid luk, Luk	Leaves	Medicinal, Nutritional, Cult, Dye
4	<i>Allium sativum</i> L.	Amaryllidaceae	Chesnov luk, Chesan	Leaves	Nutritional, Cult, Pesticide
5	<i>Aloe arborescens</i> Mill.	Xanthorrhoeaceae	Darvesno aloe	Leaves	Medicinal, Decorative
6	<i>Anethum graveolens</i> L.	Apiaceae	Kopar	Leaves	Spicy
7	<i>Apium graveolens</i> L.	Apiaceae	Tselina	Leaves	Spicy
8	<i>Arctostaphylos uva-ursi</i> (L.) Spreng.	Ericaceae	Mecho grozde	Fruits	Medicinal
9	<i>Armoracia rusticana</i> G.Gaertn., B.Mey. & Scherb.	Brassicaceae	Hryan	Roots	Medicinal, Spicy

10	<i>Artemisia absinthium</i> L.	Asteraceae	Byal pelin, Gorchiv pelin	Stalks	Medicinal, Spicy, Cult, Pesticide, Veterinary Medicine
11	<i>Beta vulgaris</i> L. var. <i>rapacea</i> W.D.J.Koch	Amaranthaceae	Cherveno tsveklo	Roots	Medicinal, Nutritional
12	<i>Brassica napus</i> L. subsp. <i>oleifera</i> (DC.) Metzg.	Brassicaceae	Rapitsa	Flowers	Melliferous
13	<i>Brassica oleracea</i> L. var. <i>capitata</i> L.	Brassicaceae	Zeke	Leaves	Medicinal, Nutritional
14	<i>Buxus sempervirens</i> L.	Buxaceae	Chemshir, Chimshir	Stalks	Medicinal, Decorative, Cult
15	<i>Calendula officinalis</i> L.	Asteraceae	Neven	Flowers	Medicinal, Decorative, Pesticide
16	<i>Carduus acanthoides</i> L.	Asteraceae	Magareshki bodil	Flowers	Medicinal
17	<i>Carpinus betulus</i> L.	Betulaceae	Obiknoven gabar	Wood	Heating, Construction
18	<i>Catharanthus roseus</i> (L.) G.Don	Apocynaceae	Vinka, Katarantus	Whole plant	Decorative
19	<i>Cerasus vulgaris</i> Mill.	Rosaceae	Vishna	Fruits	Nutritional
20	<i>Chelidonium majus</i> L.	Papaveraceae	Zmiysko mlyako	Stalks	Medicinal
21	<i>Cicer arietinum</i> L.	Fabaceae	Leblebiya, Nahut	Semen	Nutritional
22	<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai	Cucurbitaceae	Dinya	Fruits	Medicinal, Nutritional
23	<i>Citrus limon</i> (L.) Burm.f.	Rutaceae	Limon	Fruits	Decorative, Nutritional
24	<i>Cornus mas</i> L.	Cornaceae	Dryan	Stalks	Cult
				Fruits	Nutritional
25	<i>Corylus avellana</i> L.	Betulaceae	Leska, Leshnik	Fruits	Nutritional

26	<i>Cotinus coggygria</i> Scop.	Anacardiaceae	Smradlika, Tetra	Stalks	Medicinal, Dye for drinks
27	<i>Cupressus sempervirens</i> L.	Cupressaceae	Kiparis	Whole plant	Decorative
28	<i>Cydonia oblonga</i> Mill.	Rosaceae	Dyulya	Leaves	Dye
				Fruits	Nutritional
29	<i>Ficus carica</i> L.	Moraceae	Smokinya, Tabanka	Leaves	Medicinal
				Fruits	Nutritional
30	<i>Galanthus nivalis</i> L.	Amaryllidaceae	Snezhno kokiche	Flowers	Medicinal, Decorative
31	<i>Geranium macrorrhizum</i> L.	Geraniaceae	Zdravets	Leaves	Medicinal
				Whole plant	Decorative
32	<i>Ginkgo biloba</i> L.	Ginkgoaceae	Ginkgo	Leaves	Medicinal
				Semen	Nutritional
33	<i>Gleditsia triacanthos</i> L.	Fabaceae	Gleditsia	Wood	Heating
34	<i>Helianthus annuus</i> L.	Asteraceae	Slanchogled	Flowers	Melliferous
				Semen	Medicinal, Forage, Nutritional
35	<i>Hordeum vulgare</i> L.	Poaceae	Echemik	Semen	Forage, Nutritional
36	<i>Hypericum perforatum</i> L.	Hypericaceae	Zhalt kantarion, Presechena treva	Stalks	Medicinal
				Flowers	Medicinal
37	<i>Juglans regia</i> L.	Juglandaceae	Oreh	Leaves	Cult, Pesticide
				Fruits	Nutritional, Cult, For sale
38	<i>Laurus nobilis</i> L.	Lauraceae	Dafinovo darvo, Dafinov list	Leaves	Nutritional, Cult
				Whole plant	Decorative
39	<i>Lavandula angustifolia</i> Mill.	Lamiaceae	Lavandula	Stalks	Medicinal, Pesticide
				Flowers	Melliferous
				Whole plant	Decorative
40	<i>Levisticum officinale</i> W.D.J.Koch	Apiaceae	Devesil, Devisil, Lyushtyan, Selim	Leaves	Spicy, Cult
41	<i>Maclura pomifera</i> (Raf.) C.K.Schneid.	Moraceae	Maklura	Fruits	Medicinal

42	<i>Matricaria chamomilla</i> L.	Asteraceae	Meditinska layka, Layka, Laykuchka	Flowers	Medicinal, Drinks, Cosmetic
43	<i>Medicago sativa</i> L.	Fabaceae	Lyutserna	Stalks	Forage
44	<i>Melissa officinalis</i> L.	Lamiaceae	Matochina	Stalks	Drinks
				Whole plant	Decorative
45	<i>Mentha aquatica</i> L.	Lamiaceae	Vodna menta	Stalks	Medicinal, Drinks
46	<i>Mentha spicata</i> L.	Lamiaceae	Dzhodzhen, Obiknovena menta	Stalks	Spicy, Cult
47	<i>Morus alba</i> L.	Moraceae	Byala chernitsa	Wood	Dye-Drinks
48	<i>Morus nigra</i> L.	Moraceae	Cherna chernitsa	Wood	Dye-Drinks
49	<i>Nicotiana tabacum</i> L.	Solanaceae	Tyutyun	Leaves	Narcotic, Pesticide
50	<i>Ocimum basilicum</i> L.	Lamiaceae	Bosilek	Leaves	Spicy, Pesticide, Cult
				Whole plant	Decorative
51	<i>Onopordum acanthium</i> L.	Asteraceae	Zhaltenikav onopordum	Flowers	Medicinal
52	<i>Origanum vulgare</i> L.	Lamiaceae	Rigan	Stalks	Drinks
53	<i>Pelargonium roseum</i> Willd.	Geraniaceae	Indrishe	Stalks	Medicinal, Spicy
				Leaves	Medicinal
				Whole plant	Decorative
54	<i>Pelargonium peltatum</i> (L.) L'Hér.	Geraniaceae	Sakazche	Whole plant	Decorative
55	<i>Pelargonium zonale</i> (L.) L'Hér.	Geraniaceae	Mushkato	Leaves	Medicinal
				Whole plant	Decorative
56	<i>Petroselinum crispum</i> (Mill.) Nyman	Apiaceae	Magdanoz	Leaves	Spicy
57	<i>Pimpinella anisum</i> L.	Apiaceae	Anason	Semen	Spicy
58	<i>Pinus nigra</i> J.F.Arnold	Pinaceae	Cheren bor	Wood	Heating, Construction
				Cones	Medicinal,

					Household items
59	<i>Pinus sylvestris</i> L.	Pinaceae	Byal bor	Wood	Heating, Construction
				Cones	Medicinal, Household items
60	<i>Piper nigrum</i> L.	Piperaceae	Cheren piper	Semen	Medicinal, Cult
61	<i>Plantago major</i> L.	Plantaginaceae	Zhilovlek, Zhilovlyak	Leaves	Medicinal, Nutritional
62	<i>Populus alba</i> L.	Salicaceae	Byala topola, Kavak	Wood	Heating
63	<i>Prunus armeniaca</i> L.	Rosaceae	Kaysiya	Wood	Dye-Drinks
				Fruits	Nutritional
64	<i>Prunus cerasifera</i> Ehrh.	Rosaceae	Dzhanka	Fruits	Nutritional, Drinks
65	<i>Prunus domestica</i> L.	Rosaceae	Sinya sliva, Sliva	Fruits	Nutritional, Drinks
66	<i>Pyrus pyraster</i> (L.) Burgsd.	Rosaceae	Diva krusha	Fruits	Medicinal
67	<i>Quercus robur</i> L.	Fagaceae	Leten dab, Meshe	Wood	Heating, Construction
68	<i>Robinia pseudoacacia</i> L.	Fabaceae	Byala akatsia, Salkam	Wood	Heating, Construction
				Flowers	Medicinal, Melliferous
69	<i>Rosa canina</i> L.	Rosaceae	Shipka	Fruits	Medicinal, Nutritional
70	<i>Rosa centifolia</i> L.	Rosaceae	Roza	Flowers	Cosmetic
				Whole plant	Decorative
71	<i>Rosmarinus officinalis</i> L.	Lamiaceae	Rozmarin	Stalks	Spicy
72	<i>Rumex patientia</i> L.	Polygonaceae	Spanakov lapad, Lapad	Leaves	Nutritional
73	<i>Salix babylonica</i> L.	Salicaceae	Placheshta varba	Branches	Cult
74	<i>Salvia officinalis</i> L.	Lamiaceae	Gradinski chay, Salvia	Whole plant	Decorative
75	<i>Sambucus ebulus</i> L.	Caprifoliaceae	Bazak, Trevist baz	Flowers	Drinks
76	<i>Sambucus nigra</i> L.	Caprifoliaceae	Charen baz	Fruits	Medicinal

77	<i>Satureja hortensis</i> L.	Lamiaceae	Chubritsa	Stalks	Spicy
78	<i>Sempervivum</i> sp. diversa	Crassulaceae	Debelets, Debela Mara	Leaves	Medicinal
79	<i>Sinapis nigra</i> L.	Brassicaceae	Cheren sinap	Semen	Spicy
80	<i>Spinacia oleracea</i> L.	Chenopodioideae	Spanak	Leaves	Nutritional
81	<i>Tagetes tenuifolia</i> Kunth	Asteraceae	Tagetes, Turta	Flowers	Medicinal
				Whole plant	Decorative
82	<i>Taraxacum officinale</i> F.H.Wigg.	Asteraceae	Gluharche	Flowers	Medicinal
83	<i>Thymus</i> sp. diversa	Lamiaceae	Mashterka	Stalks	Medicinal, Spicy
84	<i>Tilia tomentosa</i> Moench	Malvaceae	Srebrolistna Lipa, Chay	Flowers	Medicinal, Drinks, Melliferous
				Wood	Construction
85	<i>Triticum aestivum</i> L.	Poaceae	Zhito, Pshenitsa	Stalks	Forage
				Semen	Nutritional, Forage
86	<i>Urtica dioica</i> L.	Urticaceae	Kopriva	Stalks	Nutritional, Cult
87	<i>Vitis vinifera</i> L.	Vitaceae	Loza	Branches	Cult
				Leaves	Nutritional
				Fruits	Nutritional, Drinks
88	<i>Zea mays</i> L.	Poaceae	Tsarevitsa	Flowers	Medicinal
				Semen	Nutritional, Forage, Cult
89	<i>Zingiber officinale</i> Roscoe	Zingiberaceae	Dzhindzhifil	Roots	Medicinal