

Plant adaptogens in the traditional diet of the nomadic peoples of Central Asia

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SUMMARY

Materials of ethnographic literature and expeditionary research indicate that the traditional meat and dairy diet of the nomadic Turkic-Mongolian ethnic groups of Central Asia was supplemented by a significant number of wild plants. Many types of them were used as substitutes for the medicinal raw materials of Tibetan medicine, which is widespread in this region.

Key words: wild plants, traditional diet, Tibetan medicine.

RESUME

The materials from the ethnographic literature and findings of the expedition researches show that the traditional meat and dairy diet of the nomadic Turkic-Mongolian peoples of Central Asia was added with a considerable amount of wild-growing plants. Most of these species were used as substitutes of the drug material in Tibetan medicine, which was widely practiced in this region.

Keywords: wild-growing plants, traditional diet, tibetan medicine.

At the present stage of the development of civilization, there is a significant lag of human biological evolution from the rate of technocratic progress. This conflict leads to a depression of genetically determined adaptive mechanisms that have formed over many centuries and ensure optimal adaptation of the population to living conditions. As a result, traditional populations, entering into extensive contact with modern society, lose their established way of life for centuries, and as a result, they lose the experience of adaptation [18, 20]. The costs of civilizational processes are especially painful for the nomadic populations of Central Asia, for which the transition from nomadic to sedentary life took place over the course of 2–3 generations. One of the main factors causing these negative consequences, is the rapid transition to a new diet, which consists in replacing the traditional well-balanced diet with refined industrial products high in saturated fat, sugar and low in minerals and vitamins [18]. These changes in diet are accompanied by a decrease in the level of health, an increase in morbidity and mortality among traditional ethnic groups [19].

In modern anthropological literature, the idea of the traditional diet of the nomadic peoples of Central Asia as predominantly meat and dairy has taken root. Until now, a whole layer of issues related to the role of wild plants in the traditional diet of the Turkic-Mongolian nomadic peoples has not been developed. Obviously, this explains the existing opinion about the scarcity of the food ration of nomads, which is supposedly one of the factors of the biological and social degradation of these nomadic societies (Zhukovskaya, 1990). But at the same time, the same author notes: "the nature of Central Asia is not too generous to man, but he learned to take everything he needed from her."

The paucity of information about wild plants used for food by the nomadic peoples of Siberia is mainly explained by the lack of botanical knowledge among ethnographers, as a result, by the lack of interest in this topic. Plants are often not identified in their records, and many plant names are given in local languages and dialects. In addition, the rapid development of agriculture supplanted gathering, and information about these plants by the time of ethnographic research was lost, therefore, botanical vocabulary is presented extremely poorly in modern dictionaries of the languages of Siberian peoples.

Our preliminary literature review suggests that traditional meat and dairy products

the diet of the Turkic-Mongol peoples of Central Asia was supplemented by a significant amount of wild plants. At the same time, researchers up to the present time consider the plant component in the diet of Siberian aborigines only from the point of view of their nutritional value, mainly as a source of carbohydrates. Meanwhile, their diet included a number of wild plants that had no nutritional value and were consumed in limited quantities. We assume that such minor components were used not only to enrich the daily diet of nomads, providing the body with the necessary balance of nutrients, vitamins and minerals, but also performed a more important function of increasing the body's resistance.

Expeditionary studies carried out during the 70s-80s of the last century indicate that knowledge about wild plants that were eaten by the Turkic-Mongolian ethnic groups of Central Asia (Buryats, Yakuts, Tuvinians, Khakass, Mongols) was preserved in local isolated groups of the aboriginal population, who have not lost the experience of gathering so far. Based on the analysis of ethnographic literature, archival materials, as well as the results of expeditionary research, we have compiled a list of wild plants that were previously consumed by these peoples.

Since the spread of Tibetan medicine on the territory of Russia (XVII – XVIII centuries), many local food plants have served as substitutes for the inaccessible original Tibetan medicinal raw materials, which is reflected in prescription reference books, for example, in the Big Prescription Reference Book of the Aginsky Datsan [14]. So, for example, instead of the tropical fruits of the myrobalan chebul, the medicinal emblica, the coconut poria, the fruits of the blood-red hawthorn, the berry apple and the Asian bird cherry were used, respectively. There are many such examples.

Food plants used as substitutes for the original Tibetan medicinal raw materials, marked with "*" in Table 1, were selected by us according to the "Dictionary of Tibetan-Latin-Russian names of medicinal plants used in Tibetan medicine" [6]. This dictionary was compiled on the basis of the materials of expeditionary studies carried out in the Buryat and Mongolian datsans at the beginning of the last century: the expedition of N.P. Galitsky-Ikonnikov across Mongolia (1927), M.N. Varlakov in Buryatia (1930–1932), A.F. Hammerman, B.V. Semichov (1931), M.D. Shupinskaya (1934). On the basis of the data of Tibetan prescription formulas at the Institute of General and Experimental Biology of the Siberian Branch of the Russian Academy of Sciences, adaptogenic preparations were developed, which include a number of food plants from the above list (stocky kupena, Buryat asparagus, caragana maned, shrubby cinquefoil, etc.). It was found that they possess a wide spectrum of adaptogenic activity, increasing the nonspecific resistance of the organism of laboratory animals to the action of extreme factors of various nature: hypobaric, hemic and tissue hypoxia; intoxication with heavy metal salts, organic compounds and microbial toxins; hypoi hyperthermia; X-ray and gamma irradiation. Prophylactic administration of the tested herbal remedies prevents the development of catabolic changes in the internal organs and tissues of animals, which is associated with the optimization of the balance of stress-realizing and stress-limiting systems of the body. In particular, it is shown that

The nonspecific molecular-cellular mechanism of the stress-protective action of these agents is associated with the inhibition of free radical oxidation processes and an increase in the power of the endogenous antioxidant system of the animal body. It can be assumed that the complexes of biologically active substances that make up their composition are similar in nature to physiological bioregulatory compounds (neurotransmitters, hormones, autacoids), due to which they have an adequate corrective effect on the functional state of the regulatory systems of the human body, optimizing their activity under stress conditions. situations. Thus, the data obtained justify the expediency of further

studies of wild plants from the traditional diet of the nomadic ethnic groups of Central Asia in order to develop, on their basis, highly effective biologically active food supplements and medicines intended to increase the nonspecific resistance of the organism.

Table 1

List of wild plants used in the traditional diet of nomadic ethnic groups
Central Asia

№	Русское название	Латынь
1	Астрагал, разные виды *	<i>Astragalus spp.</i>
2	Бадан толстолистный *	<i>Bergenia crassifolia (L.) Fritsch.</i>
3	Башмачок, разные виды *	<i>Cypripedium spp.</i>
4	Бодяк съедобный *	<i>Cirsium esculentum (Siev.) C.A.Mey</i>
5	Борщевик сибирский *	<i>Heracleum sibiricum L.</i>
6	Боярышник кровавокрасный *	<i>Crataegus sanguinea Pall.</i>
7	Боярышник перистонадрезанный	<i>Crataegus pinnatifida Bge.</i>
8	Верблюдка хинганская	<i>Corispermum chiganicum Iljin</i>
9	Вяз приземистый *	<i>Ulmus pumila L.</i>
10	Горец земноводный *	<i>Persicaria amphibia (L.) S.F.Gray</i>
11	Гречиха съедобная *	<i>Fagopyrum esculentum Moench.</i>
12	Дудник лесной *	<i>Angelica sylvestris L.</i>
13	Жирианка, вид не указан	<i>Pinguicula sp.</i>
14	Змеевик живородящий	<i>Bistorta vivipara (L.) S.F.Gray</i>
15	Зопник клубненосный *	<i>Phlomis tuberosa L.</i>
16	Ирисы, разные виды	<i>Iris spp.</i>
17	Камнеломка, вид не указан	<i>Saxifraga sp.</i>
18	Кандык собачий зуб	<i>Erythronium dens-canis L.</i>
19	Карагана, разные виды *	<i>Caragana spp.</i>
20	Кипрей, разные виды *	<i>Epilobium spp.</i>
21	Кислица, вид не указан	<i>Oxalis sp.</i>
22	Колосняк кистевидный	<i>Leumus racemosus (Lam.) Tzvelev</i>
23	Копеечник альпийский *	<i>Hedysarum alpinum L.</i>
24	Крапива, разные виды *	<i>Urtica spp.</i>
25	Красоднев, разные виды *	<i>Hemerocallidaceae spp.</i>
26	Кровохлебка, вид не указан *	<i>Sanguisorba sp.</i>
27	Кумарчик оттопыренный	<i>Agriophyllum squarrosum (L.)</i>
28	Кумарчик колючий	<i>Agriophyllum rungens Link</i>
29	Купена душистая *	<i>Polygonatum odoratum (Miller) Druce</i>
30	Купырь лесной	<i>Anthriscus sylvestris (L.) Hoffm.</i>

31	Лапчатка гусиная *	<i>Potentilla anserina L.</i>
32	Ластовень сибирский	<i>Vincetoxicum sibiricum L.</i>
33	Лилия даурская *	<i>Lilium dauricum Ker. Gawl.</i>
34	Лилия саранка *	<i>Lilium pilosiusculum (Freyn) Misch.</i>
35	Лилия карликовая *	<i>Lilium pumilum Delile</i>
36	Лиственница сибирская *	<i>Larix sibirica Ledeb.</i>
37	Лук, разные виды *	<i>Allium spp.</i>
38	Марь белая	<i>Chenopodium album L.</i>
39	Марь остистая *	<i>Chenopodium aristatum L.</i>
40	Молочай, вид не указан *	<i>Euphorbia sp.</i>
41	Обманчивоплодник изящный	<i>Sphallerocarpus gracilis (Besser ex Trev.) Koso-Pol.</i>
42	Патриния сибирская	<i>Patrinia sibiria (L.) Juss.</i>
43	Песчаница волосистая	
44	Пион молочноцветковый *	<i>Paeonia lactiflora Pall.</i>
45	Пион уклоняющийся *	<i>Paeonia anomala L.</i>
46	Повилика, вид не указан *	<i>Cuscuta sp</i>
47	Подорожник, вид не указан *	<i>Plantago sp.</i>
48	Польнь однолетняя	<i>Artemisia annua L.</i>
49	Поташник, вид не указан	<i>Kalidium sp.</i>
50	Пятилистник кустарниковый *	<i>Pentaphylloides fruticosa (L.) O. Schwarz</i>
51	Ревень компактный *	<i>Rheum compactum L.</i>
52	Ревень малый *	<i>Rheum nanum Siev.</i>
53	Рогоз Лаксмана	<i>Typha Laxmannii Lepech.</i>
54	Рогоз широколистный	<i>Typha latifolia L.</i>
55	Рододендрон Адамса *	<i>Rhododendron adamsii Rehder</i>
56	Сапожниковия растопыренная	<i>Saposhnikovia divaricata (Turcz.)</i>
57	Селитрянка сибирская	<i>Nitraria sibirica Pallas</i>
58	Сныть альпийская	<i>Aegopodium alpestre Ledeb.</i>
59	Солодка уральская *	<i>Glycyrrhiza uralensis Fisch.</i>
60	Спаржа бурятская *	<i>Asparagus buryaticus Pechkova</i>
61	Сусак зонтичный	<i>Butomus umbellatus L.</i>
62	Тмин обыкновенный *	<i>Carum carvi L.</i>
63	Тростник обыкновенный	<i>Phragmites communis Trin.</i>
64	Хвощ полевой *	<i>Equisetum arvense L.</i>
65	Хмель обыкновенный	<i>Humulus lupulus L.</i>
66	Цетрария исландская (исландский мох, олений мох, ягель)	<i>Cetraria islandica (L.) Ach.</i>
67	Циноморий джунгарский	<i>Cynomorium songaricum Rupr.</i>
68	Чага	<i>Inonotus obliquus pil.</i>
69	Чертополох, вид не указан *	<i>Carduus sp.</i>
73	Щавель кислый *	<i>Rumex acetosa L.</i>
74	Шизонепета однолетняя	<i>Schizonepeta annua (Pall.) Schisck.</i>
75	Шиповник, разные виды *	<i>Rosa spp.</i>
76	Яблоня ягодная *	<i>Malus baccata (L.) Borch.</i>
77	Ярутка полевая *	<i>Thlaspi arvense L.</i>

Примечание: * – растения, используемые в тибетской традиционной медицине.

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