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A BRIEF OVERVIEW ON MEDICINAL PLANT FRANGULA ALNUS

Over recent years, special attention has been paid to medicinal plants, and the number of those wishing to prepare medicinal herbs has increased, which are used for the preparation of medicine raw materials in traditional and modern medicine. Nowadays more people are beginning to take care of their health, lead a healthy lifestyle, proper nutrition and treatment for chronic diseases with medicinal plants, since they are less toxic to chemicals, more natural to the body and more suitable for long-term use. In the literature review of the article, based on the literature data, the useful and medicinal properties of the *Frangula alnus* plant are shown. In the leaves, bark, fruits and buds of buckthorn fragile in large quantities, anti-glycoside are identified, which determine the main basic pharmacological effect of this unusual plant. In non-traditional medicine, *Frangula alnus* is using for gastritis, gastric ulcer and duodenal ulcer, liver disease, heart failure, persistent cough, rheumatism and radiculitis, skin diseases. Also noted in a number of cases, the therapeutic effect of the drug is determined not only by the main active substance, but also by the whole set of mineral salts and trace elements contained in it, including sugars.

Key words: *Frangula alnus*, buckthorn, medicinal plants, medicine raw material.

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***Frangula alnus* дәрілік өсімдігіне қысқаша шолу**

Соңғы жылдары дәстүрлі және халық медицинасында дәрілік шикізатты дайындау үшін шипалы өсімдіктерге ерекше назар мен оларды қолдану аясы кеңеюде. Сондай-ақ, өз денсаулығына алаңдайтын адамдардың саны да жыл сайын артуда. Салауатты өмір сүру салтын ұстану, дұрыс тамақтану және созылмалы ауруларды шипалы өсімдіктермен емдеу тиімдірек, себебі ағза үшін табиғи, химиялық препараттарға қарағанда улылығы аз және ұзақ уақыт қолдануға ыңғайлы. Мақаладағы әдебиеттер негізінде берілген әдебиеттік шолуда *Frangula alnus* өсімдігінің пайдалы және дәрілік қасиеттері көрсетілген. Бұл ерекше өсімдіктің негізгі фармакологиялық әсерін анықтайтын антрагликозидтер. Олар сынғақ итшомырттың жапырағында, қабығында, жемістерінде, бүршіктерінде көптеп кездеседі. Дәстүрлі емес медицинада *Frangula alnus* өсімдігі гастритте, асқазан мен он екі елі ішектің жараларында, бауыр ауруларында, жүрек жетіспеушілігінде, асқынған жөтелде, ревматизм және радикулитте, тері ауруларында қолданылады. Препараттың емдік әсері көпшілік жағдайларда әсер етуші негізгі затпен ғана анықталып қоймайды, сонымен қатар құрамындағы қанттар, минералды тұздар мен микроэлементтердің жалпы жиынтығымен сипатталады.

Түйін сөздер: *Frangula alnus*, итшомырт, дәрілік өсімдіктер, медициналық шикізат.

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Краткий обзор лекарственного растения *Frangula alnus*

В последние годы особое внимание уделяется лечебным растениям и увеличилось число желающих заготавливать лекарственные травы, которые используются для приготовления лекарственного сырья в традиционной и народной медицине. Все больше людей начинают заботиться о своем здоровье, ведут здоровый образ жизни, правильно питаются и лечатся при хронических заболеваниях лекарственными растениями, так как они менее токсичны химических препаратов, более естественны для организма и больше подходят для длительного применения. В литературном обзоре статьи на основании литературных данных показаны полезные и лечебные свойства растения *Frangula alnus*. В листьях, коре, плодах и почках крушины ломкой в больших количествах выявлены антрагликозиды, которые обуславливают главное основное фармакологическое действие этого необычного растения. В нетрадиционной медицине *Frangula alnus* используется при гастрите, язве желудка и двенадцатиперстной кишки, болезнях печени, сердечной недостаточности, упорном кашле, при ревматизме и радикулите, кожных заболеваниях. Также отмечено в ряде случаев, что терапевтический эффект препарата определяется не только основным действующим веществом, а всей совокупностью содержащихся в нем, в том числе сахарами, минеральными солями, микроэлементами.

Ключевые слова: *Frangula alnus*, Крушина, лекарственные растения, лекарственное сырье.

Medicinal plants have played an important role in the human healthcare. Herbal medicinal products are resources of traditional medicines and modern medicines are made indirectly from medical plants (Saleh, 2015: 635; Clark, 1996: 1133). The use of medical plants products and supplements to expand rapidly across the world with many people worldwide relying on them for some part of primary healthcare (Prakash, 2005: 125; Newman, 2007: 247). As the global use of herbal medicinal products continues to grow and their products are sold many more new products into the markets of treating and preventing human diseases (Farnsworth, 1990: 2; Jones, 2006: 247). Herbal medicinal products have come from various biosources including all terrestrial and ocean plants. One of the most important medical plants in Kazakh medicine is *Frangula alnus* (Iskenderov, 1982: 188). *Frangula alnus* is a species of flowering plant in the mint family Rhamnaceae. Its classification and various names are following:

Botanical description of *Frangula alnus* (Buckthorn fragile).

Properties and its application domains.

Latin name: *Frangula alnus*, *Rhamnus frangula*.

English names: Alder Buckthorn, Glossy Buckthorn, Breaking Buckthorn.

Russian names: the buckthorn is fragile, olkhovidny, magpie berries, wolf berries, cheremokha, krushinnik.

Folk names: buckthorn fragile, doggy berries.

Family: Rhamnaceae.

Pharm name: bark of buckthorn – *Frangulae cortex*.

Botanical signs: Breaking Buckthorn (*Frangula alnus*) represents a small tree or bush in 7 meters height. The sort Buckthorn includes about 50 types widespread in the South and Central America. The buckthorn – small, is more rare an evergreen tree or a bush without prickles, with the next leaves, correct flowers which settle down bunches in sheet bosoms. Buckthorn fruits – juicy, spherical stone fruit, with three stones. The buckthorn is decorative the foliage and fruits which coloring changes in the course of maturing. It is a good melliferous herb. Branches are smooth, branch out next to each other, are old – hazel, young – reddish-brown, with white lenticels. The bush can often be found in the marshy plain, the woods and groves. Only bark of a buckthorn is used in the medicinal purposes (Alekseev, 1996: 392). The external surface is covered with longitudinal cracks. On a section it is possible to notice that external part smooth and fibrous from within. Thickness of bark makes 2 mm. On taste at first bitter and knitting, lets out a slight smell. Unlike a buckthorn purgative (buckthorn) barrel is smooth, without thorns. Buds have the thick and silky covering with. Leaves are rifle-green, dense, next, brilliant, are situated on short petioles, entire-edge sharp, oblong. Flowers are white-green coloration, collected in the bosoms of leaves by bunches (Grubov, 1949b: 8). On raw material must be tubular or sulcate pieces of different length, in from 0,5 to 2 mm. Outward surface of bark

is more or less smooth, darkly-brown or darkly-grey, often with whitish transversal prolate lenticels and grey spots. Internal surface is smooth, rather yellow-orange or red-brown coloration. Fracture is light yellow, evenly fine-bristled. Smell weak. Taste bitterish; at mastication of bark saliva is painted in yellow. A loss is assumed in-bulk after drying no more than 15%; pieces of bark, covered by bushy cladinias, – 1%, pieces of bark with bits and pieces of wood on an internal side – 1%, pieces of bark thicker a 2 mm – 3%, to the organic admixture – 0,5%, to the mineral admixture – 0,5% (Maznev, 2008a: 621).

At collection of bark it is necessary attentively to examine a bush, by mistake not to collect the bark of other bush, because in the leafless state, distinguishing a bush is uneasy. As an admixture meet bark of alder by sulphur – *Ainus incana*; bark of bird cherry tree – *Padus racemosa* Gilib; bark of buckthorn of purgative – *Rhamnus cathartica* L.; bark of viburnum usual – *Viburnum opulus* L.; bark of different types of willow – *Salix* sp. From all these admixtures the bark of buckthorn differs in that at the easy scraping off of outside of cork the layer of raspberry-red color reveals for her; at other plants a green or brown layer is visible. At moistening of internal surface of bark of buckthorn gradually a brownish-brown spot (absence of tannic substances) appears the drop of solution of iron ammonium alum; the bark of other bushes and trees with this reagent gives black-blue or blackly-green painting. The freshly prepared bark renders a side action: turns stomach, causes vomiting, irritates the mucous membrane of stomach because of being in fresh raw material of glycoside of frogularoside. Authenticity of raw material is determined on external signs and microscopically. On a transversal cut under a microscope the cork of red color, one-two-layer woodraies, bast fibres with the crystalliferous facing and druse located by groups, is well noticeable (Maznev, 2000b: 512).

A fruit of Buckthorn is a spherical stone fruit, blackly violet color, brilliant from 2 or by 3 stones. Flowers in beginning of summer, can happen and the repeated flowering nearer to the autumn, bears fruit at the beginning of autumn, usually abundantly, since 3 – 5 year of life of plant. The garden-stuffs of buckthorn have a sweet taste, but it is impossible to eat them, because they are poisonous (especially immature), however birds eat them up gladly. In people garden-stuffs buckthorn can be known as «spurge-flaxes». Often effloresces the second time occurs in August – September. Fruiting is ordinary abundant. Bears fruits since 3-5th year of life.

Garden-stuffs are buckthorns sweet, but uneatable (the immature are poisonous). Reproduction occurs by seeds and by vegetative way (by a tall age, root offspring).

Natural habitation: Motherland of buckthorn is Europe, North Africa and Western Asia regions. Naturalized on east of North America. Grows in the mixed forests, raw places, as undergrowth: on the edges of forests, in edges of the rivers, on raw meadows among bushes, together with a willow, bird cherry tree, alder, wild ash trees. A buckthorn fragile is widespread in European part of the CIS, on Caucasus, in Western and East Siberia, Middle Asia and Kazakhstan (Chukhno, 2007: 1024).

Sprouts in the coniferous and leafy forests, where often forms a thick undergrowth tier, on felling, gaps, in bushes. Most distribution and the best height are observed on raw and moist soils on the outskirts of bogs and water-meadows, on the banks of the rivers, brooks, lakes.

In olden times the branches of buckthorn were suspended above doors and windows, considering that it destroys (destroys) intrigues of sorcerers and demons, what defined its family name.

Collection and drying of raw material: medicinal raw material is a bark of buckthorn (*Cortex Frangulae*). Bark is stored in in spring, in a period from a moment swelling of buds to beginning of flowering. In the places taken by a forest district, a buckthorn will be felled by an ax or cut away a handsaw, abandoning stumps in a 10-15 cm high for underwood renewal. On the cut down barrels and thick branches do circular incisions, connect their longitudinal incisions and flaid as trough-shaped pieces. It is impossible to cut off a bark with knife, because here the pieces of bark turn out narrow and contain bits and pieces of wood. At presence of on the bark of bushy pieces, it is needed to clean them up. The repeated purveyance on the same area is possible in 10-15 years (Tovstukha, 1990:304).

Dry the bark of buckthorn breaking outdoors under covers or on the well ventilated garrets, laying out its loose layer and watching after that the tubular and pieces of bark were not inlaid in each other. In times of drying a bark is stirred up 1-2 times. At drying outdoors, bark is added for night apartment or covered by tarpaulin. Drying is stopped, when a bark becomes fragile (at bending breaks a secret crisply) (Kurkin, 2007a: 1239).

Use the procured bark only in a year, because the fresh contains irritating substances, turning stomach and vomiting. Accelerating decomposition of irritating substances is possible heating of bark to 100 ° during an hour. A side action disappears after

this treatment. Use-by of raw material date 5 days. The smell of raw material is weak, tastes bitter. Bark is the article of export. At the purveyance bark of buckthorn by mistake the bark of other bushes and shallow trees can breaking collected: buckthorn (buckthorn purgative), alder, wild ash, bird cherry tree and different types of willow. From all these plants buckthorn the fragile differs in that at the easy scraping off of periblast of cork for the layer of raspberry-red color reveals on a bark, while at other bushes and trees a green or brown layer is here visible (Kurkin, 2009b: 963).

Collection is conducted by two methods: at the first method flaid from branches, not cutting away them from a bush. On barrels and branches do transversal semicircular incisions only from one side, cutting through a bark to wood, and connect their longitudinal incisions. Bark is taken off from one side of branch, abandoning untouched with other. Distance between transversal incisions is 25-30 sm. Under-cutted bark remove layer by layer a wooden shoulder-blade, and then take off hands (Howell, 1977: 111).

At the second method raw material is collected from the cut down plants in the places, taken under logging-off, deck-houses of care, sanitary deck-houses.

Buckthorn fragile will fell axes or cut away a handsaw, abandoning stumps a 10-15 cm for proceeding in plants an underwood. On the cut down barrels and branches do circular incisions, connect their longitudinal and take off all bark from them. This method of purveyance is most expedient.

Chemical composition: in the bark of buckthorn – breaking ayatraglikozids (to 8%), brutulin, glycofrantulin, frangulaemodine, chrysophanic acid, and also tannic substances (10,4%) were found out; organic acids, essential oils, sugar, alkaloids (0,15%) and other substances; in leaves are flavonoids as: quercitin, kaempferol, ramnocitrin, isoramnetin, ramnoin; in garden-stuffs are alkaloids (0,04%) found (CABI, 2014:12).

A buckthorn contains fragile frangulin, anthraglycosides, glycofragulin, chrysophanic acid, tannic substances, oils aethereal, acids organic, alkaloids, sugar, flavonoids (kappherol, rhamnosine, quercetinum, isoramnetin, ramnocitrine), microelements (iodine, coniferous forest, lead, strontium, nickel, cobalt, iron, zinc, selenium, copper, magnesium, vanadium, calcium, manganese, barium, aluminium, potassium, chrome).

In fresh bark of a buckthorn glycosides contain in the restored look – frangulyarozid and antranolglyukofrangulin. They possess the

irritating and emetic properties. At the same time these connections are labile and are capable to auto-oxidation even air oxygen. Therefore bark of a buckthorn is applied after storage during 1 year or process of oxidation is accelerated heating at 110 °C within 1 hour. First frangulyarozid turn into gyukofrangulin. Bark of the buckthorn used in medicine can contain at the same time glyukofrangulina, frangulina and frangula-emodin.

Except a frangula-emodin (or a reum-emodina) in bark of a buckthorn fragile other antron aglikon are revealed: an aloe-emodin, fistsion, and also a palmitin. Along with antronov connections bark of a buckthorn contains a significant amount of tannins (10,4%), peptide alkaloids of a frangulanina (0,15%) – derivatives r-hydroxy-stiriloamine franganina, organic acids (in particular, apple), triterpene glycosides, saponins, bitterness, resinous substances, flavonoids (ksantoramin and ramnetin), the traces of essential oil, starch, pectins different of sugar. 1,8-dihydroxy-2-atsetilnaftalen is found in a hydrolyzate of bark (Gassmann, 2004: 15).

In addition, there are alkaloids 0, 15% – in a bark, comparatively plenty of tannic substances -10, 4%, different sugar, apple acid, small amount of essential oil. Leaves contain 0, 17% alkaloids, garden-stuffs – 0, 04%.

In a bark contained: ash – 3,57%; macronutrients (mg/of g) : To – 4,80, Ca – 18,80, Mn – 2,60, Fe – 0,40; microelements (mcg/of g) : Mg – 107,00, Cu – 12,40, Zn – 16,60, With – 0,16, Cr – 0,80, Al – 152,58, Ba – 171,68, V – 0,72, Se – 0,04, Ni – 1,52, Sr – 7,92, Pb – 27,52, In – 70,00, I – 0,72. Mo, Cd, Li, Au, Ag, Br – are not found (Murav'eva, 2002:656).

Pharmacological properties: in leaves, barks, fruits and kidneys of a buckthorn fragile in large numbers antraglikozids were found, which cause the main pharmacological action of this unusual plant: it possesses the irritating property. Besides, fruits and leaves of this bush contain ascorbic acid and alkaloids. The buckthorn fragile is a soft depletive. The locally-irritating action of galena forms of plant shows up in strengthening of peristaltic motions of colon. Under influence of preparations of buckthorn suction of liquid is slowed the mucous membrane of colon, that entails dilution of the excrement masses and increase of their volume. The purgative effect of buckthorn is usually marked through 8-12 hours after the reception of preparations. It contingently goes a slow hydrolysis by anthroglucoside frogulyarozide enzymes and bacterial flora of colons in an alkaline environment (Brue, 1980).

Application in medicine: medicinal properties of bark of buckthorn were known already in the XIV century. Legend asserts, as though purgative properties of plant were set as a result of watching life of bears that bed on a winter in a lair, only cleaning a stomach. People saw once, that by a late autumn the pigeon-toed turned inside out from earth the bush of buckthorn and began to nibble its bark. It suggested them an idea about curative healing property of a plant. A fragile buckthorn possesses purgative, bile-expelling, anti-inflammatory, diuretic properties.

The bark of buckthorn that needs to be stored in in spring possesses curative actions, to swelling of buds. Drying is necessary under covers outdoors. Using raw material is possible only after a year rough-dry, because the fresh procured bark contains irritating substances that cause vomiting. Accelerating the process of destruction of these substances is possible, if on 1 hour to warm a bark to the temperature of 100 degrees. Keeping raw material is possible 5 days. Storing the bark of buckthorn, it is necessary to avoid collection of bark from other bushes (alder, buckthorn, bird cherry tree), distinguishing feature of buckthorn breaking – at scraping off of cork periblast the layer of raspberry color appears on a bark, on all other this layer will be brown or green.

Branches and bark of a plant have a wound healing effect. Decoctions, pills and extracts (liquid and dry type) and preparation of «Ramnil» in scientific medicine are softly operating purgatives. «Vicalinum», «Vicairum», «Roterum» enters in the complement of difficult preparations, that possess astringent, hypacidic and mildly by a purgative action, and also used for treatment of ulcerous illness of stomach and duodenum; in composition preparation there is «Cholagolum» – by a bile-expelling and spasmolytic action – for treatment of bilious-lithoidal illness, cholecystitis and hepatocholecystitis.

Buckthorn fragile enters in the complement of purgative and anti-hemorrhoids teas and collections. Infusion – in obstetric-gynaecological practice have been used, as a purgative at a hemorrhoid, cracks of rectum, atony and spastic locks in postoperative and climacteric periods. Essence is in homoeopathy – at chronic locks. In an ethno-medicine – at colics, edema of cardiac and kidney origin, thyroid gland illness, helminthiasms, gout, climacteric disorders, especially at tachicardis, dizziness, depression, itch, migraine, at a cholangitis, hepatitis are used. Tincture used at streptodermias, pyodermas, furuncles and other diseases types of skin and hypoderm. If any of forms drug is used by the patient throughout a

long time, development of effect of accustoming is probable. As a result, weakening of laxative action or its total absence is possible. It is desirable to alternate in the course of long treatment reception of this means to other laxative drugs. At treatment urine can become yellow. In that case drug withdrawal is not required (Krock, 2002: 17).

Enters also in the complement of sudorific, carminative collections, and also in collections for treatment of dysmenorrhea, menorrhagias and for normalization of defecation. In Lithuania and Belarus at a malaria disease treatment. In Bulgaria – at nervous illnesses, neuroses, obesity, diabetes mellitus, urate arthritis, exudate diathesis, eczema, rheumatism, and in addition, in collections – at skin diseases with a metabolic disturbance. Garden-stuffs have a fast-acting anti-helminthic spectrum. Seeds are used in treatment of leukemia.

Medicinal forms, method of application and doses: decoction of bark of buckthorn breaking (*Decoctum corticis Frangulae*): 20 g (2 soup spoons) of raw material place in the enameled tableware, inundate 200 ml of the hot boiled water, close a lid and heat in boiling water (on water bath) at the frequent stirring 30 minutes, cool 10 minutes at a room temperature, filter, remaining raw material is wrung out. Lead the prepared drug to 200 ml volume of the got decoction the boiled water. Got decoction is kept in a cool place a no more than 24 hours. Accept for 1/2 glasses for the night as a laxative at chronic locks.

The extract of buckthorn liquid (*Extractum Frangulae fluidum*) can be prepared as: extraction by a 30% alcohol from the coarse bark of buckthorn in correlation of raw material to the extractant 1:1. Liquid is of darkly-brown color. Accept for 20-30 drops on a reception before a dream as a soft purgative.

Extract of buckthorn dry (*Extractum Frangulae siccum*) prepared as follows: extraction by a 70% alcohol from powder of buckthorn. A table of contents of oxymethylantraquinones must be no less than 6%. Produced as pills tunicate, for 0,2 g; accept for 1-2 pills before a dream as a soft purgative of means.

Syrup of buckthorn (*Sirupus Frangulae*) is an amber thick liquid with a specific smell. It is used as a laxative at chronic locks, better on an empty stomach. Dose for adults – 1-2 tea-spoons (but no more than a 1 soup spoon on a reception) 1-2 times per a day; to the children – according to age: 3-4 are 1/4 tea-spoons, 5-8 – 0,5-1 tea-spoon, 9-11 – 1-1,5 tea-spoon 1 one time per a day. At application of preparation can be observed skin rash, stomach-

aches. In these cases its reception it is necessary to stop. Painting of urine in yellow (presence of chrysophanic acid), is not dangerous for an organism and not requiring abolition of preparation, is possible.

Syrup of buckthorn is contra-indicated at the acute inflammatory diseases of bowels, fallopian bleeding, pregnancy. Use-by of preparation date 2 days. Preparation is kept in the place protected from light at a temperature not higher than 15 °C (Science, 1988).

Rhamnilum is orange-brown powder odourless and taste. Produced in pills containing a 0, 05 g of preparation. Accept for 1-2 pills before a dream as a soft purgative.

Cholagolum is a total preparation, containing the dye-stuff of root of turmeric (0,025 g), emodin from a buckthorn (0,009 g), magnesium salicylate (0,18 g), essential oils (5,535 g), alcohol (0,8 g), olive oil (to 10 g). Preparation renders a bile-expelling and spasmolytic action. It is used at bilious-lithoidal illness, cholecystitis, hepatocholecystitis. On an action it is near to «Olimetinum» preparation. Accept for 5 drops (on sugar) 3 times per a day for 30 minutes to the meal. At the attacks of bilious colic accept 20 drops singly. At presence of the dyspepsia phenomena accept during a meal or after-meal. Preparation is produced in small bottles for 10 ml. Tincture of bark of buckthorn: the ground up raw material is inundated by a 30% alcohol in correlation 1: 5 and maintain at a room temperature 7-10 days. Use as washes, bandages and for bathing of the staggered areas of skin.

Contra-indications and possible side effects: it should be remembered that at the protracted application of preparations of buckthorn getting and effect comes used goes down. It is therefore necessary to increase periodically a dose or to change a purgative. At the protracted application of large doses of buckthorn for pregnant abortion is possible.

Application in other areas: the roots of buckthorn are suitable for making of shoe-nails, shoe trees, decorative plywood, fretted hand-made articles, furniture, ashless coal, suitable for drawing, the best sorts of hunting gunpowder and bangers. Cora in veterinary science (decoction, infusion) is a purgative and at a scab. Is suitable for tanning of skin. Bark, leaves, garden-stuffs – paint wool are in the olive and brown colors of different tints. Immature garden-stuffs are used for the receipt of chrome. A buckthorn fragile is the best melliferous herb in moist places. Wherein there is much buckthorn, bees early come in forces and swarm well. With 1

ha of buckthorn collection of honey makes 15-35 kg Honey thick with red huckleberry taste. Decorative plant also (Medicine, 1990).

Application is in collections:

1. Hepatitis is chronic and hepatocirrhosis: buckthorns bark, rhizomes of chicory, air-lift, cumin garden-stuffs, immortelle flowers, herbarees of st-john's-wort, knot-grass, ancerine, melissa – in equal parts, to prepare infusion, drink a course to semiyear.

2. Hemorrhoid (without bleeding strong) : buckthorns bark, orchis tubers, roses petals, garden-stuffs, herbarees, motherwort, primrose, melilot, moss Icelandic, straw of oat, leaves of cuff, rhizome of burdock, elecampane – equal all – to 3 months to drink.

3. Lock chronic: buckthorn bark, rhizomes of sorrel, valerian, anise garden-stuffs, flowers of tansy, camomile, strawberry all, herbarees of mint, nettle – equal – to 2 months twice a day, by 1 litre.

4. Diabetes: buckthorns bark, straw of oat, grass of parsley, bag a shepherd, flowers of linden-tree, corn-flower, anise garden-stuffs, sorrel of rhizome, leaves of whortleberry, laurel, kidney bean of pods of leaf, lilac of bud, dandelion roots – equal all – to 4 months to drink.

5. Obesity: buckthorns bark, tea escapes of kidney, snouts corn, grass of milfoil, dandelion roots, garden-stuffs of dill, brier, immortelle flowers – all is equal to put – to 4 months to accept (Muzychkina, 2009: 864)

Recipes at home facilities from a buckthorn fragile: from the bark of fragile buckthorn there is decoction: to add the pair of soup spoons, 2 litres of boiling water, half hour on water bath to boil, 10 minutes to insist, it is further needed to filter and refill liquids, drink half for the night. Infusion of bark of buckthorn : on 30 % to the alcohol, 1: 5, days ten to insist, use outwardly.

Pharm facilities: liquid extract of bark of buckthorn on to the 30% alcohol, 1: 1, to drink for the night as a purgative for 25 drops. Buckthorns are an extract dry, to drink for 2 pills for the night. Syrup of buckthorn is used for instructions, as purgative. Also a buckthorn enters in the complement of such preparations: rhamnil, choragol, vicair, vikalina, rotor, purgative collection №1.

Storage: in a dry, well ventilated apartment, in the packed kind. Cora is pressed and packed in bales. Expiration date is 5.

Purveyance: bark is stored in by an early spring, in the period of juice-moving, when it well scales from wood. At this time distinguishing a buckthorn from other bushes is possible only on

the features of bark: a characteristic purple-red layer that is not present at any bush reveals at the careful scraping off of cork epiphyses (Wagner, 1993: 522).

Conclusion: Summing up main botanical description of *Frangula alnus* (Buckthorn fragile), we can mention that it has an important pharm facilities, as long as usage in other areas of everyday life. However, fruits of the plant are poisonous,

which can cause serious contradictions in health, especially in pregnant women. A buckthorn fragile is widespread in European part of the CIS, on Caucasus, in Western and East Siberia, Middle Asia and Kazakhstan. Medicinal properties of bark of buckthorn were known already in the XIV century. Nowadays medical properties of the Buckthorn plant are widely used in solving problems with locks and dermal diseases.

References

- 1 Алексеев Ю.В., Цвелов Н.Н. «Сем. Rhamnaceae Juss. – Крушины» в Флоре Восточной Европы // под ред. Н.Н. Цвелов. – СПб.: Мир и семья, 1996. – №3. – С. 392-395.
- 2 Грубов В.И. «Монографический обзор рода Rhamnus L.» // Ботанический институт Академии наук СССР. – 1949. – 58 p.
- 3 Искендеров А. Лекарственные травы в Казахстане. – Алматы: Казахстан, 1982. – 188 с.
- 4 Чухно Т. «Frangula alnus» // Большая энциклопедия лекарственных растений. – Москва: Эксмо, – 2007. – 1024 p.
- 5 Мазнев Н. И. Золотая книга лекарственных растений. – М.: XXI век, 2008. – 621 p.
- 6 Мазнев Н.И. Травник. – М.: Гама пресс, 2001. – 512 p.
- 7 Муравева Ю.А., Самилина И.А., Яковлев Г. Фармакогностика. – М.: Медицина, 2002. – 656 p.
- 8 Музичкина Р.А. Rhamnus frangula. Биологические свойства и физико-химические характеристики. – М.: ФАЗИС, 2009. – 864 p
- 9 Муравева Ю.А. Фармакология. – М.: АГТ, 2000. – 412 p.
- 10 Alimova S., Yesimsitova Z.B., Ablaihanova N.T., Sagyndykova S.Z. General characteristics and medicinal properties of buckthorn *Frangula alnus* mill // Труды XIII международная научно-практическая конференция «Технологические аспекты современного сельскохозяйственного производства и охраны окружающей среды» 8-11 ноября 2017. – Алматы, Казахстан. 2017. – P.142.
- 11 Brue J.A. «Conversion of buckthorn (*Frangula alnus*) thickets to Canada goose grazing and loafing areas of the Bay Beach Wildlife Sanctuary Part II» // Green Bay, WI, 1980. – 119 p.
- 12 Clark A.M. «Frangula alnus» // Invasive Species Compendium. – 2014. – P. 21-27.
- 13 Clark A.M. «Natural Products as a Source for New Drugs» // Pharmaceutical Research. –1996. – 1133 p.
- 14 Farnsworth N.R. «The Role of Ethno Pharmacology in Drug Development» // Ciba Foundation Symposium. – 1990. – P. 274-285.
- 15 Gassmann A., Tosevski I., Appleton A. Biological control of buckthorns // *Rhamnus cathartica* and *Frangula alnus*: Report. – 2004. – 15 p.
- 16 Hill C. B. A new soybean aphid (hemiptera: aphididae) biotype identified. – Nature, 2010. – P. 364-366.
- 17 Howell J.A., Blackwell W.H. The history of *Frangula alnus* (glossy buckthorn) in the Ohio flora. – Castanea, 1977. – 111 p.
- 18 Jones W.P., Chin Y. W., Kinghorn A.D. «The Role of Pharmacology in Modern Medicine and Pharmacy». – Current Drug Targets, 2006. – 247 p.
- 19 Krock S. L. and Williams C. E. «Allelopathic potential of the alien shrub glossy buckthorn, *Rhamnus frangula* L.» // Journal of the Pennsylvania Academy of Science. – 2004. – №286(1-4). – P. 249-270.
- 20 Kurkin V.A. Pharmacognosy. Textbook for students of pharmaceutical institutions (faculties) of higher learning: 2th publ. – 2007. – 1239 p.
- 21 Kurkin V.A. Bases of phytotherapy. – Samara: LTD. Etching, 2009. – P. 963-1010.
- 22 Newman D.J., Crag G.M., Snader K.M. «The Influence of Natural Products upon Drug Discovery» // Natural Product Reports. – 2000. – №119. – P. 252-297.
- 23 Newman D.J., Crag G.M. «Natural Products as Sources of New Drugs over the Last 25 Years» // Journal of Natural Products. – 2007. – №51. – P. 412-427.
- 24 Prakash P., Gupta N. «Therapeutic Uses of *Ocimum sanctum* Linn with a Note on Eugenol and Its Pharmacological Actions: A Review» // Indian Journal of Physiology and Pharmacology. – 2005. – №125. – P. 49-70.
- 25 Saleh H., Azizollah J., Ahmadreza H. «The application of medicinal plants in traditional and modern medicine: a review of *Thymus vulgaris*» // International Journal of Clinical Medicine. – 2015. – №6. – P. 63-85.
- 26 Ahmadreza H. The history of *Frangula alnus*. – Science, 1988, – P. 182-186.
- 27 Tovstukha E. S. Fitoterapiya. – K.: Healthy, 1990. – 304 p.
- 28 Vishwakarma A.P., Vishwe A., Sahu, P., Chaurasiya A. «Magical Remedies of *Terminalia arjuna* (ROXB.)» // International Journal of Pharmaceutical Archive. – 2013. – №2. – P. 48-109.
- 29 Wagner H., Pharmazeutische Biologie. Drogen und ihre Inhaltsstoffe. – Stuttgart-New York: Gustav Fischer Verlag, 1993. – 522 p.
- 30 Wagner H., *Frangula alnus* mill. – New York: Gustav Fischer Verlag, 2001. – 45 p.

References

- 1 Alekseev Ju.V., Cvelev N.N. «Sem. Rhamnaceae Juss. – Krushiny» v Flore Vostochnoj Evropy // pod red. N.N. Cvelev. – SPb.: Mir i sem'ja, 1996. – №3. – S. 392-395.
- 2 Grubov V.I. «Monograficheskij obzor roda Rhamnus L.» // Botanicheskij institut Akademii nauk SSSR. – 1949. – 58 r.
- 3 Iskenderov A. Lekarstvennye travy v Kazahstane. – Almaty: Kazakhstan, 1982. – 188 s.
- 4 Chuhno T. «Frangula alnus» // Bol'shaja jenciklopedija lekarstvennyh rastenij. – Moskva: Jeksmo, – 2007. – 1024 r.
- 5 Maznev N. I. Zolotaja kniga lekarstvennyh rastenij. – M.: XXI vek, 2008. – 621 r.
- 6 Maznev N.I. Travnik. – M.: Gama press, 2001. – 512 r.
- 7 Muraveva Ju.A., Samilina I.A., Jakovlev G. Farmakognostika. – M.: Medicina, 2002. – 656 r.
- 8 Muzichkina R.A. Rhamnus frangula. Biologicheskie svojstva i fiziko-himicheskie harakteristiki. – M.: FAZIS, 2009. – 864 r.
- 9 Muraveva Ju.A. Farmakologija. – M.: AGT, 2000. – 412 r.
- 10 Alimova S., Yesimsitova Z.B., Ablaihanova N.T., Sagyndykova S.Z. General characteristics and medicinal properties of buckthorn *Frangula alnus* mill // Trudy XIII mezhdunarodnaja nauchno-prakticheskaja konferencija «Tehnologicheskie aspekty sovremennogo sel'skhozajstvennogo proizvodstva i ohrany okruzhajushhej sredy» 8-11 nojabrja 2017. – Almaty, Kazakhstan. 2017. – R.142.
- 11 Brue J.A. «Conversion of buckthorn (*Frangula alnus*) thickets to Canada goose grazing and loafing areas of the Bay Beach Wildlife Sanctuary Part II» // Green Bay, WI, 1980. – 119 r.
- 12 Clark A.M. «*Frangula alnus*» // Invasive Species Compendium. – 2014. – R. 21-27.
- 13 Clark A.M. «Natural Products as a Source for New Drugs» // Pharmaceutical Research. –1996. – 1133 r.
- 14 Farnsworth N.R. «The Role of Ethno Pharmacology in Drug Development» // Ciba Foundation Symposium. – 1990. – R. 274-285.
- 15 Gassmann A., Tosevski I., Appleton A. Biological control of buckthorns // *Rhamnus cathartica* and *Frangula alnus*: Report. – 2004. – 15 r.
- 16 Hill C. B. A new soybean aphid (hemiptera: aphididae) biotype identified. – Nature, 2010.– R. 364-366.
- 17 Howell J.A., Blackwell W.H. The history of *Frangula alnus* (glossy buckthorn) in the Ohio flora. – Castanea, 1977. – 111 r.
- 18 Jones W.P., Chin Y. W., Kinghorn A.D. «The Role of Pharmacology in Modern Medicine and Pharmacy». – Current Drug Targets, 2006. – 247 r.
- 19 Krock S. L. and Williams C. E. «Allelopathic potential of the alien shrub glossy buckthorn, *Rhamnus frangula* L.» // Journal of the Pennsylvania Academy of Science. – 2004. – №286(1-4). – R. 249-270.
- 20 Kurkin V.A. Pharmacognosy. Textbook for students of pharmaceutical institutions (faculties) of higher learning: 2th publ. – 2007. – 1239 r.
- 21 Kurkin V.A. Bases of phytotherapy. – Samara: LTD. Etching, 2009. – R. 963-1010.
- 22 Newman D.J., Crag G.M., Snader K.M. «The Influence of Natural Products upon Drug Discovery» // Natural Product Reports. – 2000. – №119. – R. 252-297.
- 23 Newman D.J., Crag G.M. «Natural Products as Sources of New Drugs over the Last 25 Years» // Journal of Natural Products. – 2007. – №51. – R. 412-427.
- 24 Prakash P., Gupta N. «Therapeutic Uses of *Ocimum sanctum* Linn with a Note on Eugenol and Its Pharmacological Actions: A Review» // Indian Journal of Physiology and Pharmacology. – 2005. – №125. – R. 49-70.
- 25 Saleh H., Azizollah J., Ahmadreza H. «The application of medicinal plants in traditional and modern medicine: a review of *Thymus vulgaris*» // International Journal of Clinical Medicine. – 2015. – №6. – R. 63-85.
- 26 Ahmadreza H. The history of *Frangula alnus*. – Science, 1988, – R. 182-186.
- 27 Tovstukha E. S. Fitoterapiya. – K.: Healthy, 1990. – 304 r.
- 28 Vishwakarma A.P., Vishwe A., Sahu, P., Chaurasiya A. «Magical Remedies of *Terminalia arjuna* (ROXB.)» // International Journal of Pharmaceutical Archive. – 2013. – №2. – R. 48-109.
- 29 Wagner H., Pharmazeutische Biologie. Drogen und ihre Inhaltsstoffe. – Stuttgart-New York: Gustav Fischer Verlag, 1993. – 522 r.
- 30 Wagner H., *Frangula alnus* mill. – New York: Gustav Fischer Verlag, 2001. – 45 r.