

## FINDING MORPHOLOGICAL AND ANATOMICAL DIFFERENCES OF SORTS OF VIBURNUM OPULUS

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**Introduction.** *Viburnum opulus* L. represents a branchy shrub, about 4 meters in height, with brown or dark gray bark. On the territory of Ukraine it has a significant spreading in the forest and prairie zone. This plant is a historical and literature symbol of country. Almost all of parts of *Viburnum* L. have a use in traditional medicine. Bark has a hemostatic properties, fruits - diuretic properties and the leaf use against of swelling.

There are many sorts of this plant, but only one of them has interesting differences. This kind of *Viburnum* named *Xanthocarpum*. It is rarely found on all of the territory of Ukraine variety, about 1,5 meters in height, with a large leaves and yellow fruits.

**Aim.** Spending a pharmacognostic analysis of two sorts of *Viburnum* for the determination of morphological and anatomical differences.

**Materials and methods.** At this study were used a standard methods of pharmacopoeic analysis – “Identification A and Identification B”. In witch described a conducting of procedure finding external distinctive features and diagnostic features of internal structure

**Results and discussion.** In this research we have found an interesting features between two sorts of *Viburnum*. Their internal and external structure were somewhat different.

The sort *Xanthocarpum* has white flowers, they are collected in the scars. It is typical for the *Viburnum*: there are many small fruiting flowers in the center, several large sterile flowers are located along the edges of the scute. The fruits are bright yellow, shiny, large, after the first frosts become translucent, keeping a light yellow tone. The leave of this plant has an egg-shaped three or five lobed form, in spring and summer it is green, in autumn it is yellow or even faintly red color.

The sort of traditional *Viburnum opulus* has some differences towards the previous sort. There are differences in length of shoots, sizes and surface texture of leaves, sizes of inflorescence, colors of leaves and fruits. Also different period of keeping of the fruit on the branches they have.

**Conclusions.** We diagnostic features of the objects: the type of the structure of the puff plate, the shape of the epidermis cells, the type of peritoneal apparatus, the type and localization of the trichomes were established.

## COMPARATIVE PHYTOCHEMICAL STUDY OF HAWTHORN TINCTURE AND FRUITS PRODUCED BY VARIOUS FIRMS

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**Introduction.** The blood-red hawthorn (*Crataegus sanguinea* L.) is a small tree or a shrub belonging to the *Rosaceae* family. Medications based on the raw material of this plant show cardiotonic, spasmolytic, antihypertensive, sedative and desensitizing effect. Biologically active compounds of hawthorn are able to increase the power of systole, regulate the blood pressure, reduce excitability of the nervous system, supply a deep, calm long sleep, not causing the states of mental inhibition after awakening.

Various dosage forms have been developed on the basis of the hawthorn raw material – fruits, flowers and leaves. Raw material is collected in different regions of Ukraine, therefore its composition is different, as well as the qualitative and quantitative composition of the drugs derived from it. That is why, comparative study of hawthorn products of different manufacturers is of scientific interest, which indicates the relevance of the chosen topic.

**Aim.** To conduct a comparative phytochemical analysis of the hawthorn drugs of different manufacturers represented in the pharmaceutical market of Ukraine.

**Materials and methods.** As objects for research were used the tinctures of hawthorn from domestic manufacturers «Fitofarm», «Krasnaya Zvezda», «Viola», State Enterprise «Pharmaceutical Factory» (Zhytomyr), «Lubnyfarm», medicinal plant material – hawthorn fruit from two domestic producers «Liktravy» and «Viola», as well as leaves and flowers from the species *C. monogyna* L. and *C. prunifolia* L. were taken.

Preliminary chromatographic study was performed by the method of paper chromatography (PC). The same quantities of studied examples were applied to the start line of the paper Filtrak and chromatographed by upward method in solvent system ethyl acetate – glacial acetic acid – water (10:2:3). The dried chromatograms were viewed in UV light at a wavelength 354 nm.

For spectrophotometric determination, were prepared dilutions in the ratio 0.5: 25, as a standard 70% ethyl alcohol was used. The optical density was measured on epy spectrophotometer SF-46.

**Results and discussion.** As a result of chromatographic study, on the chromatogram of ready-made tinctures 6 spots appeared, on the chromatogram of tinctures made from hawthorn fruits of domestic manufacturers – 7 spots, on the chromatogram of tinctures made from leaves and flowers of *C. monogyna* L. and *C. prunifolia* L. – 10 spots. These spots were identified as phenolic compounds (including chlorogenic acid, rutin, hyperoside, isoquercetin and vitexin).

After spectrophotometric determination the amounts of flavonoids recounting on rutin were calculated for each studied example. It is determined that tincture manufactured by «Fitofarm» contained 0.04% of flavonoids, tincture by «Krasnaya Zvezda» – 0.03%, tincture by «Viola» – 0.03%, tincture by «Pharmaceutical Factory» – 0.03%, tincture by «Lubnyfarm» – 0.03%; tincture obtained from the fruits manufactured by «Liktravy» – 0.27%, tincture from the «Viola» fruits – 0.30%; tincture from *C. monogyna* L. leaves – 0.09%, tincture from *C. monogyna* L. flowers – 0.62%; tincture from *C. prunifolia* L. leaves – 0.77%; tincture from *C. prunifolia* L. flowers – 0.92%.

**Conclusion.** As a result of the study it was found that tinctures made in laboratory conditions from the hawthorn fruits manufactured by domestic producers, as well as from leaves and flowers of *C. monogyna* L. and *C. prunifolia* L., contain much more flavonoids, both qualitatively and quantitatively, than ready-made tinctures manufactured by domestic producers.

## PLANT RAW MATERIALS IN THE CORRECTION OF ERECTILE DYSFUNCTION

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**Introduction.** The problem of maintaining reproductive health of men is increasingly being discussed in professional and popular science literature. This is due to the growth of functional and organic disorders of the sexual sphere, due to the acceleration of the pace of life, pressure of stressful situations, adverse environmental conditions. Using herbal remedies, it is possible to achieve significant success in the prevention and treatment of the pathology of the male sexual sphere. Natural preparations in comparison with synthetic have a milder and more versatile effect due to the variety of components that actively influence the body, and, as a rule, rarely cause side effects.

**Aim.** The study of modern literature and analysis of the role of plant raw materials in the correction of erectile dysfunction in men.

**Materials and methods.** Studying the sources of scientific literature from 2014 to 2018.

**Results and discussion.** After studying the composition of the most popular drugs and dietary supplements that correct erectile dysfunction, we found that the most commonly used raw materials are: herb of *Tribulus terrestris*, *Solidago canadensis* and *Hipericum perforatum*; *Pausinystalia johimbe* bark; *Abelmoschus moschatus* seed oil; stems, leaves, fruits and roots of *Leptadenia reticulata*; roots of *Urtica dioica*, *Glycyrrhiza glabra* and *Echinacea purpurea*; lipophilic extracts from the bark of *Pygeum africanum*, *Cucurbita pepo* seeds and *Serenoa repens* fruits. Also at pharmacological correction of sexual dysfunction