

QIZILMIYA O'SIMLIGINING TARKIBIDAGI ORGANIK BIRIKMALARINI
TADQIQ QILISH
ИЗУЧЕНИЕ ОРГАНИЧЕСКИХ СОЕДИНЕНИЙ В СОСТАВЕ
STUDY OF ORGANIC COMPOUNDS IN THE COMPOSITION OF THE CARRIER PLANT

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Annotatsiya

Risolada *Glycyrrhiza glabra* L. o'simligining botanik tavsifi, tarqalishi hamda kimyoviy tarkibi yoritib o'tilgan.

Kalit so'zlar: *Glycyrrhiza glabra* L, *Fabaceae*, *shirimiya*, triterpen saponin, glisterrizin kislota, flavonoid, xalkon, isoflavon, efir moylari va uchuvchan moddalar.

Аннотация

В статье описано ботанические характеристика, распространение и химический состав растения *Glycyrrhiza glabra* L.

Ключевые слова: *Glycyrrhiza glabra* L, *Fabaceae*, солодка, тритерпеновый сапонин, глицерризиновая кислота, флавоноид, халкон, изофлавоны, эфирные масла и летучие вещества.

Annotation

The article describes the botanical characteristics, distribution and chemical composition of the plant *Glycyrrhiza glabra* L.

Key words: *Glycyrrhiza glabra* L, *Fabaceae*, licorice, triterpene saponin, glisterrhizic acid, flavonoid, chalcone, isoflavone, essential oils and volatiles.

Shirinmiya, Qizilmiya–dukkakdoshlar (*Fabaceae*) oilasiga mansub ko'p yillik o't o'simlik. Qizilmiya (*Glycyrrhiza glabra* L.) foydali dorivor o'simliklardan biridir. *Glycyrrhiza* qadimgi yunoncha *glykos* atamasidan kelib chiqqan bo'lib, *shirin* va *rhiza* atamasi *ildiz* degan ma'noni anglatadi. *Glycyrrhiza glabra* L. Shimoliy Hindistonda *mulaithi* nomi bilan mashhur. Teofrast o'z asarlarida bu o'simlikni *solodkoviy koren*, *skifskaya trava*, *pontiyskaya trava* nomi bilan atagan. Mazkur o'simlikni rus tilida – *solodka golaya*,

o'zbek tilida-shirinmiya, chuchukmiya, qizilmiya, Qoraqalpog'iston respublikasida esa bo'yan deb atashadi. *Glycyrrhiza glabra* vatani Evroosiyo, Shimoliy Afrika va G'arbiy Osiyo. U Afrikada (Liviya); Osiyo (Armaniston, Ozarbayjon, Gruziya, Rossiya Federatsiyasi, Xitoy, Qozog'iston, Qirg'iziston, Shirinmiya polikarp o't o'simlik, poyalari yaxshi rivojlangan bo'lib, silindrsimon tuzilishga ega. Poya yog'ochlangan bo'lib balandligi 150-160sm, ba'zan uning balandligi to'qay sharoitlarda 200 sm va undan ham ortadi. Sho'rlangan tuproq sharoitida bu ko'rsatkichlar 50-70sm atrofida qayd etiladi.

Qizilmiya ildizi triterpen saponinlardan (4–20%), asosan glitserrizin, ya'ni 18β -glitserrizin kislotani kaliyli va kalsiyli tuzlari (o'simlikni yer usti qismi asosan birikmasi bo'lib, glitserrizin kislotasi yoki glitserrizin saqlab, shakarga nisbatan 50 marta shirindir. Shirinmiya ildizi liquiritic kislotasi, glycyrrhetol, glabrolide, isoglabrolide va liquorice kislotasi kabi kislotalarni saqalaydi. 18β -glycyrrhizic kislotasi (3-O-(2-O- β -D-glucopyranuronosyl)- α -D-glucopyranurosyl)-3- β -hydroxy-11-oxo- 18β ,20 β -olean-12-en-29-oic acid) *Glycyrrhiza glabra* ildizi dan ajratib olingandir[3,171].

No	Fitobirikmalar	Tajribani o'tkazilishi	Natija
1	Uglevodlar	Molish sinovi	(-)
2	Oqsillar	Mis sulfat sinovi	(-)
3	Flavonoidlar	Qo'rg'oshin asetat sinovi, NaOH eritmasi sinovi	(+)
4	Alkaloidlar	Dragendorf sinovi	(+)
5	Steroidlar	Lieberman sinovi	(+)

6	Terpenoidlar	Salkovskiy sinovi	(+)
7	Saponinlar	Ko'pik sinovi	(+)
8	Tanninlar	Temir(III) xlorid sinovi	(+)
9	Flobatanninlar	HCl sinovi	(-)
10	Antraxinonlar	Benzol sinovi	(-)
11	Glikozidlar	Keller-Kiliani sinovi	(+)
12	Fenol birikmalar	Temir sulfat sinovi	(-)

Glycyrrhiza glabra o'simligidan quidagi flavonoid va chalconlar ajratib olingan: liquiritin, liquiritigenin, hamnoliquiritin, neoliquiritin, isoliquiritin, isoliquiritigenin, neoliquiritin, licuraside, glabrolide, licoflavonol, 5,8-dihydroxy-flavone-7-O-beta-D-glucuronide, glychionide A va 5-hydroxy-8-methoxyflavone-7-O-beta-D-glucuronide va glychionide B. Flavonoidlar shirinmiyaning sariq rangiga javob beradi.

Glycyrrhiza glabra o'simligidan quidagi isoflavonlar ajratib olingan: glabridin, galbrene, glabrone, shinpterocarpin, licoisoflavone A and B, formononetin, glyzarin, kumatakenin, hispaglabridin A, hispaglabridin B, 4'-O-methylglabridin and 3'-hydroxy-4'-O-methylglabridin, glabroisoflavanone A and B glabroiso-flavanone B [4,678].

Glycyrrhiza glabra barglaridan gidrodistillatsiya usuli bilan ajratib olingan efir moylari GC va GC-MS yordamida o'rganilib, quyidagi asosiy uglevodorod va kislorod tutgan birikmalar aniqlangan: isoniazid (13.36%); diethyltoluamide (6.56 %), benzoic kislota (5.37 %), benzene (4.58 %), linalool (2.25 %), prasterone (5.63 %), warfarin (1.43 %), iodoquinol (1.90 %), phenol, 4-(2-aminopropyl)(1.30 %). *Glycyrrhiza glabra* ildizidan ajratib olingan efir moylarida 82 birikma borligi aniqlanib, asosiy birikmalari quyidagilardir: hexanoic kislota (31.57%), hexadecanoic kislota (3.30%), hexanol (1.71%) va octanoic kislota(1.44%). Efir moylarining hidi estragole (methyl chavicol), anethole, eugenol, indole, γ -nonalactone

va cumic spirtlarini mavjudligi bilan bog'liqdir [5,1120]. Misr, Afg'oniston, Suriya, Xitoy va Germaniyada o'suvchi namunalar uchuvchan moddalarning tarkibi va miqdori bilan bir-biridan farq qiladi. *Glycyrrhiza glabra* o'simligining ildizidan ajratib olingan uchuvchan moddalari tarkibida quyidagi birikmalar aniqlangan: (E)-2-heptenal, 5-methyl-furfural, (2E, 1E) heptadienol, (E)-2-octen-1-al, o-guaiacol, 2-phenylethanol, (Z)-pinene hydrate, lavandulol, terpinen-4-ol, (E)-linalool oxide, p-cymen-8-ol, α -terpineol, methyl chavicol, (4E)-decenal, decanal, (2E, 4E)-nonadienal, cumin aldehyde, carvone, piperitone, (E)-cinnamaldehyde, (E)-anethole, (2E, 4Z)-decadienal, thymol, indole, carvacrol, (2E, 4Z)-decadienal, p-vinylguaiacol, eugenol, γ -nonalactone, methyl eugenol, β -caryophyllene, β -dihydro-ionone, himachalene epoxide, spathulenol, (1 α , 10 α)-Epoxy-amorph- 4-ene, β -caryophyllene oxide va humulene epoxide II[6,525].

Foydalanilgan adabiyotlar

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