



Egyptian Herbal Monograph

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Volume 3

Herbal Formulations Used in Egypt

Egyptian Drug Authority (EDA)

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Echinacea, Goldenseal

إشنسيا / خاتم الذهب

1. Names & Synonyms

Echinacea (1,2)

***Echinacea purpurea* L. Moench.**

Family: Asteraceae (Compositae).

Syns.: *Echinacea intermedia* Lindl., *E. purpurea* (L.) Moench var. *arkansana* Steyererm., *E. purpurea* var. *purpurea* f. *liggettii*, *E. speciosa* Paxt., *Brauneria purpurea* (L.) Britton, *Rudbeckia purpurea* L., *R. hispida* Hoffm., *R. serotina* Sweet.

Arabic: إشنسيا

English: Purple coneflower.

Goldenseal (3)

***Hydrastis canadensis* L.**

Family: Ranunculaceae.

Syns.: *Warneria canadensis* Mill., *Warneria diphylla* Raf., *Warneria tinctoria* Raf.

Arabic: خاتم الذهب Khatam Al-Zahab (4)

English: Goldenseal, Orange root, Yellow -puccoon, Yellow root (5,6).

2. Parts used for medicinal purpose

Echinacea: Fresh or dried herb (aerial parts) (1, 2), Rhizome/ root (2, 7).

Goldenseal: Root. (5,6).



3. Major chemical constituents

Echinacea

Root:

-Phenylpropanoids: Caffeic acid esters; cichoric acid, caftaric acid, chlorogenic and isochlorogenic acids and **caffeic acid glycosides;** echinacoside, verbascoside, caffeoylechinacoside (8).

-Alkamides: Isobutylamides of straight-chain fatty acids with olefinic and/or acetylenic bonds contain mainly 2,4-dienoic units (2,8).

-Polysaccharides: Methylglucuronoarabinoxylan, rhamnoarabinogalactan, xyloglucan and glycoproteins; arabinogalactan-protein (protein has high concentrations of serine, alanine and hydroxyproline) (2).

-Others: Polyacetylene (volatile oil components): Alkylketones; (2,8) saturated pyrrolizidine-type **alkaloids** (tussilagine and isotussilagine) (2,8); **flavonoids** (quercetin, kaempferol, isorhamnetin and their glycosides; betaine, fatty acids, simple sugars, sterols and vanillin (2).

Herb/aerial parts:

-Phenylpropanoids: Caffeic acid esters; cichoric acid, caftaric acid, chlorogenic and isochlorogenic acids, and **caffeic acid glycosides;** echinacoside, verbascoside, caffeoylechinacoside (8).

-phenolic acids: *p*-coumaric, *p*-hydroxybenzoic and protocatechuic acids; betaine (2).

-Flavonoids: quercetin, kaempferol, isorhamnetin and their glycosides (2,9).

-Alkamides: Isobutylamides of straight-chain fatty acids with olefinic and/or acetylenic bonds contain mainly 2,4-dienoic units (2,8).

-Polysaccharides: Methylglucuronoarabinoxylan, rhamnoarabinogalactan, xyloglucan and glycoproteins; arabinogalactan-protein (protein has high concentrations of serine, alanine and hydroxyproline) (2).

-Others: volatile oil components; borneol, bornyl acetate, germacrene D and caryophyllene (2,8), saturated pyrrolizidine-type alkaloids (tussilagine and isotussilagine) (2,8), anthocyanins, fatty acids, simple sugars, sterols and vanillin (2).



Golden seal

- **Isoquinoline alkaloids:** Berberine, hydrastine, canadine, hydrastinine (10,11), canadaline, corypalmine, hydrastidine and jatrorrhizine (12).
- **Flavonoids:** Sideroxylin, 8-desmethyl-sideroxylen and 6-desmethyلسideroxylin (13).
- **Phenolic acids:** Chlorogenic and neochlorogenic acids (10).

4. Medicinal uses (Indications)

- A) Treatment and prevention of recurrent infections of the common cold, influenza and other upper respiratory tract infections as well as lower urinary tract infections through the immunostimulant effects
- B) Treatment and relief of inflammatory skin conditions: as poorly healing small superficial wounds, spots and pimples due to mild acne, bruises, burns, scratches, leg ulcers, persistent recurring episodes of painful nodules in the skin, boils, carbuncles and abscesses.

5. Herbal preparations correlated to medicinal use

Combination of echinacea dry extract (Extraction solvent: hydroalcoholic) and goldenseal dry extract (Extraction solvent: hydroalcoholic).

Herbal preparations are in pharmaceutical dosage forms. The pharmaceutical form should be described by the pharmacopoeia full standard term.

6. Posology and method of administration correlated to medicinal use

Adolescents, adults and elderly: Combination of 125 mg of echinacea extract and 50 mg of goldenseal extract, twice daily.

Duration of use:

For indication A: If the symptoms persist longer than 10 days during the use of the medicinal product, a doctor or a pharmacist should be consulted.

For indication B: If the symptoms persist longer than 2 weeks during the use of the medicinal product, a doctor or a pharmacist should be consulted.

Method of administration: Oral use.



7. Contraindications

- Hypersensitivity to the active substance(s) and to other plants of the same families.
- Progressive systemic disorders, collagen disease, tuberculosis, immunodeficiencies (HIV/AIDS), immunosuppression diseases of white blood cell system, and autoimmune diseases such as lupus erythematosus and multiple sclerosis. (7,8,14).
- Individuals with raised blood pressure, bleeding or blood clotting disorders, or if using medication to control such a disorder (2, 6,12).
- Kidney disease because of inadequate excretion of the alkaloids (15).

8. Special warnings and precautions for use

- If the symptoms worsen during the use of the medicinal product or high fever, a doctor or a pharmacist should be consulted.
- The use in children under 12 years is not recommended (6).
- There is a possible risk of allergic reactions in sensitive individuals, those patients should consult their doctor before using Echinacea (8).
- There is a possible risk of anaphylactic reactions in atopic patient. atopic patient should consult their doctor before using the product (8).
- This product should not be used for longer than 8 weeks without a 3-week rest period (8).
- Immunosuppression may occur after extended therapy with this product (8).
- Patients with diabetes, glaucoma and a history of cardiovascular disease (12).

9. Interactions with other medicinal products and other forms of interaction

Concomitant use with alcohol, other medication and/or natural products with sedative properties should be avoided (5).

10. Fertility, pregnancy and lactation

- The use in pregnancy & lactation should be avoided (2,6, 15).
- No fertility data available.



11. Effects on ability to drive and use machines

No studies on the effect on the ability to drive and use machines have been performed.

12. Undesirable effects (7)

- Hypersensitivity reactions (skin reactions) may occur.
- Hepatotoxicity, acute asthma attack, anaphylaxis and angioedema may occur.
- If adverse reactions occur, a doctor or a pharmacist should be consulted.

13. Overdose

Although no case reports are available, exaggerated reflexes, depression, delirium, vomiting and cyanosis have been mentioned (6, 12).

14. Relevant biological properties

Not required as per Egyptian guidelines for registration of herbal medicines.

15. Additional information

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16. Date of compilation/last revision

20/04/2026.



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