



Egyptian Herbal Monograph

Volume 4

Herbal Formulations used in Egypt

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Cymbopogon proximus (Hochst. ex A. Rich.) / *Ammi visnaga* L. حلفاير و خلة بلدي

1. Names & Synonyms

***Cymbopogon proximus* (Hochst. ex A. Rich.) (1, 2):**

Family: Gramineae (Poaceae) (2, 3).

Synonyms (3):

Andropogon proximus (Hochst.), *Andropogon sennarensis* (Hochst.), *Andropogon jwarancusa* Jones var. *proximus* (Hochst. ex A. Rich.), *Andropogon jwarancusa* Jones var. *sennarensis* (Hochst.) and *Cymbopogon sennarensis* (Hochst.).

Arabic Names: Halfa bar حلفاير, Mahareb محاريب (1, 4).

English Names: Camel grass, Camel's hay, Geranium grass, Scenanth (1, 2).

***Ammi visnaga* L. (1, 2, 5):**

Family: Umbelliferae (Apiaceae).

Synonyms: *Daucus visnaga* L.

Arabic Names: Khella baladi خلة بلدي, Khella خلة, Gazar sheitani جزر شيطاني, Kammon habashi كمون حبشي.

English Names: Pick-tooth, Toothpick, Bishop's weed.

2. Parts used for medicinal purpose

***C. proximus*:** Aerial parts (1).

***A. visnaga*:** Fruits and leaves (1, 2, 5).

3. Major chemical constituents

***C. proximus*:**

-Essential Oil (4, 6): Piperitone, β -elemol, α -eudesmol, β -eudesmol, β -elemene, eudesm-7(11)-en-4-ol, D-limonene, 2-, α -terpineol, τ -cadinol, terpinolene, β -selinenol, 3-cyclohexen-1-one, 2-isopropyl-5-methy, 4-carene, shyobunol, cadina-1(10),4-diene, (-)-guaia-6,9-diene and β -caryophyllaneare.

-Sesquiterpenoids: Proximadiol (biocyclic sesquiterpene diol) in addition to 5 α -hydroxy- β -eudesmol, 1 β -hydroxy- β -eudesmol, 1 β -hydroxy- α -eudesmol, 5 α -hydroperoxy- β -eudesmol and 7 α , 11-dihydroxycadin- 10(14)-ene (1, 7).

-Others: Saponins, tannins, triterpenes, flavonoids, alkaloids, phenolic glycosides, cardiac glycosides and steroids (8).

-Furanochromone derivatives (γ -Pyrone)s: Khellin, visnagin, khellinol, ammiol, visammiol, khellol, khellinin, khellinone, visnaginone (9) and visamminol.

-Pyranocoumarins/visnagans: Samidin, dihydrosamidin and visnadin (9).

-Furanocoumarins: Xanthotoxin, ammoidin, bergapten, and psoralen (10-17).

-Flavonoids: Quercetin, kaempferol, rhamnocitrin, rhamnetin and rhamnazin. Flavonoidal glycosides include quercetin-3-O-glucoside, kaempferol-3-O-glucoside and isorhamnetin 3-O-glucoside, rhamnetin-3-O-glucoside, isorhamnetin-3-O-glucoside, rhamnazin-3-O-glucoside, isorhamnetin-7-O-glucoside, quercetin-7,3,3'-O-triglucoside, quercetin-3-O-rutinoside, kaempferol-3-rutinoside and isorhamnetin-3-O-rutinoside.

-Flavonoidal sulfates: Quercetin 3-sulfate, rhamnocitrin 3-sulfate, and isorhamnetin-3-sulfate (18).

-Essential Oil: Oxygenated monoterpenes (linalool and thymol), monoterpene hydrocarbons (α -thujene, α -pinene, β -pinene, and β -myrcene) (18), and nonterpene derivatives (isoamyl 2-methylbutyrate, isoamyl isobutyrate, isobutyl 2-methylbutyrate, 2-methylbutyl 2-methylbutyrate, 2-methylbutyl isobutyrate, and isoamyl isovalerate) (19, 20).

-Sterols and Fatty acids: β -Sitosterol and β -sitosterol-glucoside (21), in addition to palmitic, palmitoleic, stearic, petroselinic, linoleic, linolinic, arachidic and tetracosanoic acids (18).

4. Medicinal uses

Urinary tract disorders (22, 23, 24):

- 1) Diuretic (6, 7), renal colic pain killer (25, 26).
- 2) Break up and removal of small renal stones from urinary tract (Lithotriptic agent) (25).

5. Herbal preparations correlated to medicinal use

Combination of dry extract of *C. proximus* herb (extraction solvent 70% ethanol) and dry extract *A. visnaga* fruits (extraction solvent 30% ethanol).

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

6. Posology and method of administration correlated to medicinal use

Single dose: combination of 72mg dry *C. proximus* extract and 180mg dry *A. visnaga* extract.

Daily dose: 3 times daily.

Method of administration: Oral use.

7. Contraindications

Hypersensitivity to the active substances and to other plants of the same family.

8. Special warnings and precautions for use

- If the symptoms worsen during the use of the medicinal product, a doctor or a pharmacist should be consulted.
- The exposure to sun or other sources of ultraviolet light should be avoided during treatment, in order to minimize photosensitivity due to *A. visnaga* content (27).
- Patients should be monitored for ophthalmologic changes, as *A. visnaga* has been associated with the development of severe ophthalmologic changes, particularly pigmentary retinopathy (28, 30).
- Blood glucose level should be monitored regularly.
- To be used under medical supervision.

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

Concurrent use with blood thinners, calcium channel blockers or blood pressure lowering drugs is avoided due to *A. visnaga* content (23).

10. Fertility, pregnancy and lactation

- The use during pregnancy should be avoided (24).
- Safety during lactation has not been established. In the absence of sufficient data, the use during lactation is not recommended.
- 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

- If adverse reactions occur, a doctor or a pharmacist should be consulted.
- Pseudoallergic reactions and reversible cholestatic jaundice and elevated activities of liver transaminases and γ -glutamyltransferase have been observed. These symptoms are typically reversible when the use is discontinued (27).

13. Overdose

Long term use or overdose of the drug can lead to queasiness, dizziness, loss of appetite, headache, sleep disorders and with very high dosage (corresponding to over 100 mg khellin), it caused reversible elevation in the levels of liver enzymes (27, 29).

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

19/05/2022

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