

# **Egyptian Herbal Monograph**

**Volume 3**

**Medicinal Plants used in Egypt**

**Egyptian Drug Authority (EDA)**

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## Medicinal Plants Used in Egypt

*Arctostaphylos uva-ursi* L.

عنب الدب

### 1. Names & Synonyms (1)

*Arctostaphylos uva-ursi* L.

**Family:** Ericaceae.

**Syns.:** *Arbutus uva-ursi* L., *Arctostaphylos media* Greene, *Arbutus officinalis* Wimm., *Arbutus procumbens* Patzke, *Mairania uva-ursi* Desv., *Uva-ursi buxifolia* S.F. Gray, *Uva-ursi procumbens* Moench.

**Arabic:** Enab eddib عنب الدب.

**English name:** Bearberry, Uva ursi.

### 2. Parts used for medicinal purpose

Dried leaves (1-4).

### 3. Major chemical constituents

**-Hydroquinone derivatives:** Arbutin and methyl-arbutin (glycosides); galloyl arbutin, and hydroquinone (2, 5).

**-Flavonoids:** Myricetin, quercetin and their glycosides including hyperin, isoquercitrin, myricitrin and quercitrin; hyperoside; kaempferol (2,5,6).

**-Polyphenols:** Gallotannins, corilagin, catechin, anthocyanidin derivatives including cyanidin and delphinidin (2).

**-Phenolic acids:** Gallic, *p*-coumaric and syringic, salicylic acid, *p*-hydroxybenzoic, ferulic, caffeic and lithospermic acids (dimeric caffeic acid) (2).

**-Terpenoids:**  $\alpha$ -Amyrin,  $\alpha$ -amyrin acetate,  $\beta$ -amyrin, lupeol, uvaol, ursolic acid, and a mixture of mono- and di-ketonic  $\alpha$ -amyrin derivatives (1,2,5).

### 4. Medicinal Uses (Indications)

Symptomatic treatment of mild recurrent lower urinary tract infections such as burning sensation during urination and/or frequent urination in women, after serious conditions have been excluded by a medical doctor (1-3).

## 5. Herbal preparations correlated to medicinal use (2)

### 1. Comminuted herbal substances as herbal tea for oral use.

1.5-4 g (4) of the comminuted herbal substance in 150 ml of boiling water as a herbal infusion or a macerate (1,4).

### 2. Powdered herbal substance.

3. **Dry extract, extraction solvent ethanol 60% V/V**, containing 23.5-29.3% of hydroquinone derivatives calculated as anhydrous arbutin (spectrophotometry).

4. **Dry extract, extraction solvent water**, containing 20-28% of hydroquinone derivatives calculated as anhydrous arbutin (spectrophotometry).

5. **Liquid extract**, extraction solvent ethanol 25% V/V.

Herbal preparations (2-5) 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 (2)

### Adult and elderly females

#### Preparation 1

2 to 4 times daily. Maximum daily dose: 8 g.

The macerate should be used immediately after preparation.

**Preparation 2:** Single dose: 700 – 1050 mg, twice daily. Maximum daily dose: 1.75 g.

#### Preparation 3, 4

Single dose: the dose corresponding to 100–210 mg of hydroquinone derivatives calculated as anhydrous arbutin, 2–4 times daily.

Daily dose: the dose corresponding to 200–840 mg of hydroquinone derivatives calculated as anhydrous arbutin (3).

**Preparation 5:** Single dose: 1.5–4 ml, up to 3 times daily. Maximum daily dose: 8 ml.

#### Duration of use:

- Not to be used for more than one week.
- If the symptoms persist for more than 4 days during the use of the medicinal product, a doctor or a pharmacist should be consulted.

**Method of administration:** Oral use (1-3).



## 7. Contraindications

- Hypersensitivity to active substances and to other plants of the same family.
- Kidney disorders (2).
- During pregnancy or lactation (1,3).
- Children under the age of 12 years (1,4), as hepatotoxicity may occur (4).

## 8. Special warnings and precautions for use

- If the symptoms worsen or if complaints such as fever, dysuria, spasms, or blood in urine occur during the use of the medicinal product, a doctor or a pharmacist should be consulted (2,3).
- It should not be used for prolonged periods (1-4).
- It should be used cautiously by persons with electrolyte imbalance, acidic urine, constipation, iron deficiency, anemia, malnutrition due to high tannin level, and disorders involving gastrointestinal irritation (4).
- It should not be administered with medicines or foods that acidify the urine, such as acidic fruits or fruit juice and should be administered with plenty of fluids (1,3).
- It may cause a greenish-brown coloration of the urine (1,2) that darkens on exposure to air due to the oxidation of hydroquinone (1).
- The use in children and adolescents under 18 years of age is not recommended without medical advice (2).
- The use in men is not recommended without medical supervision (2).

## 9. Interactions with other medicinal products and other forms of interaction (4)

- Concurrent use with diuretics can lead to electrolyte loss, primarily hypokalemia.
- Uva ursi may increase the effect of NSAIDs.
- Urine acidifiers may inactivate Uva ursi; concurrent use should be avoided.

## 10. Fertility, pregnancy and lactation

- The use during pregnancy and lactation should be avoided (1,4).
- No fertility data available (2).

## 11. Effects on ability to drive and use machines (2)

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



## 12. Undesirable effects (2)

- If adverse reactions occur, a doctor or a pharmacist should be consulted.
- Nausea, vomiting and stomachache.

## 13. Overdose (4)

Hepatotoxicity, cyanosis, tinnitus, vomiting, seizures, cardiovascular collapse, delirium, shortness of breath and feeling of suffocation.

## 14. Relevant biological activities

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

## 15. Additional Information

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## 16. Date of compilation/last revision

21/06/2022.

## Referances

1	WHO monographs on selected medicinal plants (2002). Monographs on selected medicinal plants, <b>2</b> , 342-351.
2	Committee on Herbal Medicinal Products (HMPC) (2018). European Union Herbal monograph on <i>Arctostaphylos uva-ursi</i> (L.) Spreng., folium. EMA/HMPC/750269/2016. Committee on Herbal Medicinal Products (HMPC).
3	Natural Health Product - Bearberry - <i>Arctostaphylos uva-ursi</i> L. (2019). Health Canada, <a href="http://webprod.hc-sc.gc.ca/nhpiddipsn/atReq.do?atid=arctostaphylos.uva.ursi&amp;lang=eng">http://webprod.hc-sc.gc.ca/nhpiddipsn/atReq.do?atid=arctostaphylos.uva.ursi&amp;lang=eng</a>
4	Skidmore-Roth, L. (2010). Mosby's Handbook of Herbs and Natural Supplements. St. Louis: Mosby. ISBN: 978-0-323-05741-7.
5	Barnes, J., Anderson, L. A. and Phillipson, J. D. (2007). Herbal Medicines, 3 <sup>rd</sup> edition. Published by the Pharmaceutical Press. ISBN 978 0 85369 623 0.
6	Sugier, P., Sęczyk, Ł., Sugier, D., Krawczyk, R., Wójcik, M., Czarnecka, J., Okoń, S., and Plak, A. (2021). Chemical characteristics and antioxidant activity of <i>Arctostaphylos uva-ursi</i> L. Spreng. at the southern border of the geographical range of the species in Europe. <i>Molecules</i> , <b>26</b> (24), 7692. <a href="https://doi.org/10.3390/molecules26247692">https://doi.org/10.3390/molecules26247692</a> .