

# **Egyptian Herbal Monograph**

## **Volume 3**

### **Medicinal Plants used in Egypt**

**Egyptian Drug Authority (EDA)**

**2024**



# Egyptian Herbal Monograph

## Medicinal Plants Used in Egypt

***Vaccinium myrtillus* L.**

التوت الأزرق

### 1. Names & Synonyms (1)

***Vaccinium myrtillus* L.**

**Family:** Ericaceae

**Syns.:** *Vitis-idaea myrtillus* (L.) Moench

**Arabic:** التوت الأزرق Toot azrak.

**English name:** Bilberry, European blueberry, Bogberry (2-4).

### 2. Parts used for medicinal purpose

Fresh and dried fruits (3, 5).

### 3. Major chemical constituents

- **Flavonoids:**
  - **Flavan-3-ols:** Procyanidins B1, B2, B3 and B4, and anthocyanins (3-*O*-arabinosides, 3-*O*-glucosides and 3-*O*-galactosides of cyanidin, delphinidin, malvidin, peonidin and petunidin).
  - **Flavonol-*O*-glycosides:** Quercitrin, isoquercitrin, hyperoside and astragalin (6, 7). **Flavonols:** Kaempferol, quercetin and myricetin (7).
- **Organic acids:** Malic, citric and quinic acids (7).
- **Phenolic acids:** Hydroxycinnamic and hydroxybenzoic acids (8, 9, 10).
- **Tannins:** Gallocatechin (7).
- **Stilbenes:** *Trans*-resveratrol (7).

### 4. Medicinal Uses (Indications)

- A. Mild diarrhoea (3-5).
- B. Problems related to varicose veins such as painful and heavy legs and peripheral vascular insufficiency (3-6).
- C. Microcirculatory disorders of the eye (3-6).

D. Slow the progression of disorders of the eye such as diabetic and hypertensive retinopathy and macular degeneration (4).

E. Minor inflammations of the oral mucosa (3, 5, 6).

## 5. Herbal preparations correlated to medicinal use

1. **Herbal substance or comminuted herbal substance** of the dried ripe fruits as herbal tea for decoction or macerate (3).

- Decoction: Herbal substances boiled for 10 minutes in 150-250 ml water and drunk cold.

- Cold macerate: Dried fruit soaked in 150 ml water for 2 hours and drunk.

2. **Dry extract of the fresh fruit**, extraction solvent ethanol (96% V/V) (5).

Herbal preparation (2) is 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**

### Preparation 1

#### Indication A

- 5-10 g, several times daily as a decoction/cold macerate (5) or 15-60 g, in divided doses of 5-15 g in 250 ml of water, 3-4 times daily as a decoction (3).

#### Duration of use:

If the symptoms persist longer than 3 days during the use of the medicinal product, a doctor or a pharmacist should be consulted (3).

**Method of administration:** Oral use.

#### Indication E

- A 10% decoction or equivalent preparations as a gargle or mouthwash (3, 5, 6), rinse the mouth several times daily (3).

#### Duration of use:

- If the symptoms persist longer than one week during the use of the medicinal product, a doctor or pharmacist should be consulted (3).

**Method of administration:** Oromucosal use



### Preparation 2 (5)

### Indications B, C and D

#### Adults

- 60 to 160 mg, 3 times daily. Not to exceed 160 mg per single dose (equivalent to 65 - 173 mg anthocyanins, daily) (4, 5).

**Duration of use:** At least 4-8 weeks (5).

**Method of administration:** Oral use.

## 7. Contraindications

Hypersensitivity to active substances and to other plants of the same family. (3).

## 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.
- For oromucosal preparations, the use in children under 12 years of age is not recommended.

## 9. Interactions with other medicinal products and other forms of interaction (5)

- Bilberry may increase the action of **anticoagulants**; caution should be taken if used concurrently.
- Bilberry may increase the action of **NSAIDs**, caution should be taken if used concurrently.
- **Antidiabetics and hypoglycemic herbs:** Bilberry may increase hypoglycemia; caution should be taken if used concurrently.
- **Antiplatelet agents:** Bilberry may cause antiplatelet aggregation, caution should be taken if used concurrently.
- **Iron:** Bilberry interferes with iron absorption, concurrent use should be avoided.
- **Lab Test: Blood glucose:** Bilberry may decrease blood glucose.

## 10. Fertility, pregnancy and lactation

- Dried fruit has been used safely during pregnancy and lactation (3, 5).
- No fertility data available (3).

### **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 (3).

### **12. Undesirable effects**

- None known.
- If adverse reactions occur, a doctor or a pharmacist should be consulted (3, 5).

### **13. Overdose**

No case of overdose has been reported (3).

### **14. Relevant biological activities**

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

### **15. Additional information**

-

### **16. Date of last revision**

14/9/2022.

## References

|    |                                                                                                                                                                                                                                                                                                |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | <a href="https://powo.science.kew.org">https://powo.science.kew.org</a> .                                                                                                                                                                                                                      |
| 2  | 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.                                                                                                                            |
| 3  | European Union Herbal Monograph on <i>Vaccinium myrtillus</i> L., Fructus recens (2015). EMA/HMPC/375808/2014. Committee on Herbal Medicinal Products (HMPC).                                                                                                                                  |
| 4  | Natural Health Product, Bilberry - <i>Vaccinium myrtillus</i> L. oral (2018). Health Canada<br><a href="http://webprod.hc-sc.gc.ca/nhp/bdipsn/monoReq.do?id=39&amp;lang=eng">http://webprod.hc-sc.gc.ca/nhp/bdipsn/monoReq.do?id=39&amp;lang=eng</a> .                                         |
| 5  | ESCOP Monographs (2014). <i>Vaccinium myrtillus</i> L. European Scientific Cooperative on Phytotherapy. Edited by Roberta Hutchins and Simon Mills.                                                                                                                                            |
| 6  | WHO monographs on selected medicinal plants (2002). Monographs on selected medicinal plants, <b>4</b> , 210- 243.                                                                                                                                                                              |
| 7  | Pires, T. C. S. P., Caleja, C., Santos-Buelga, C., Barros, L and Ferreira, I. C. F. R. (2020). <i>Vaccinium myrtillus</i> L. fruits as a novel source of phenolic compounds with health benefits and industrial applications - A review. <i>Curr. Pharm. Des.</i> , <b>26</b> (16), 1917-1928. |
| 8  | Može, Š., Polak, T., Gašperlin, L., Koron, D., Vanzo, A., Ulrih, N. P. and Abram, V. (2011). Phenolics in Slovenian bilberries ( <i>Vaccinium myrtillus</i> L.) and blueberries ( <i>Vaccinium corymbosum</i> L.). <i>J. Agric. Food Chem.</i> , <b>59</b> , 6998–7004.                        |
| 9  | Michalska, A. and Łysiak, G. (2015). Bioactive compounds of blueberries: Post-harvest factors influencing the nutritional value of products. <i>Int. J. Mol. Sci.</i> , <b>16</b> , 18642–18663.                                                                                               |
| 10 | Ehala, S., Vaher, M. and Kaljurand, M. (2005). Characterization of phenolic profiles of Northern European berries by capillary electrophoresis and determination of their antioxidant activity. <i>J. Agric. Food Chem.</i> , <b>53</b> (16), 6484–6490.                                       |
| 11 | Edwards, S. E., Rocha, I. D. C., Williamson, E. M. and Heinrich, M. (2015). <i>Phytopharmacy: An Evidence-Based Guide to Herbal Medicinal Products</i> . 1 <sup>st</sup> edition. John Wiley & Sons, Ltd                                                                                       |