



Egyptian Herbal Monograph

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## Volume 3

### Herbal Formulations Used in Egypt

Egyptian Drug Authority (EDA)

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**Milk thistle, Dandelion**

**شوك الجمل / هندباء**

### 1. Names & Synonyms (1)

#### Milk thistle

*Silybum marianum* L. Gaertn. (2).

**Family:** Compositae (Asteraceae) (2).

**Syns.:** *Carduus marianus* L. (2).

**Arabic:** Shawk Sennari شوك سناري, Shok El-Gamal شوك الجمل (3).

**English:** Milk thistle and St. Mary's thistle (3).

#### Dandelion

*Taraxacum officinale* Weber

**Family:** Asteraceae/Compositae (4-7).

**Syns.:** *Leontodon taraxacum* L., *Taraxacum vulgare* (Lam.) Schrank, *T. campyloides* G. E. Haglund (8,9).

**Arabic:** Handebaa, Hindbeh, Hindiba هندباء

**English name:** Lion's Tooth (2, 10-12), Common Dandelion (10,11), Dandelion (1).

### 2. Parts used for medicinal purpose

**Milk thistle:** Dried ripe fruits, freed from the pappus (1).

**Dandelion:** Leaves, roots and root with herb (whole plant) (2,4,5,7,10).

### 3. Major chemical constituents

**Milk thistle** (2,3,13-15)



- **Flavonolignans:** Silymarin mixture mainly (silybin A, silybin B, isosilybin A, isosilybin B, silychristin, isosilychristin, silydianin).
- **Flavonoids:** Taxifolin, apigenin, kaempferol and their derivatives.
- **Fixed oil:** Linoleic, oleic, palmitic and stearic acids.
- **Sterols:** Tocopherol (vitamin E) and phospholipids.
- **Others:** Mucilage, sugars, amines and saponins.

### Dandelion

Generally, dandelion plant is rich in polysaccharides, phenolic acids, flavonoids, terpenoids, minerals (particularly potassium), amino acids, and vitamins (11,16).

### Roots:

- **Polysaccharides:** Inulin (11,16).
- **Phenolic acids:** Chicoric, chlorogenic, caffeic, moncaffeoyltartaric, hydroxycinnamic, synergic, vanillic and *p*-hydroxyphenyl acetic acids (11,16).
- **Sesquiterpene lactones:** 4,11 $\beta$ , 13, 15''-Tetrahydroridentin B and taraxacolide-Oglucopyranoside (7, 17), 11,13-dihydrolactucin and ixerin D (18), and taraxinic acid Dglucopyranoside, its 11,13-dihydro-derivative (7) and ainslioside (17-19).
- **Minerals:** Mainly potassium (20).
- **Others: Sterols/Triterpenes:** Taraxasterol,  $\beta$ -taraxasterol, their acetates and their 16-hydroxy derivatives arnidol and faradiol,  $\beta$ -sitosterol,  $\beta$ -sitosterol-Dglucopyranoside and stigmasterol, and  $\beta$ -amyrin (17, 21, 22). A Triterpenoid: 3 $\beta$ hydroxylup-18(19)-ene-21-one in fresh roots (18).

### Leaves:

- **Phenolic acids:** Chicoric, caffeic and chlorogenic acids (11).
- **Flavonoids:** Luteolin, quercetin, apigenin, and their glycosides (11).
- **Sesquiterpene lactones:** Taraxinic acid  $\beta$ -D-glucopyranoside and 11 $\beta$ , 13dihydrotaraxinic acid (23).



- **Coumarins:** Cichoriin and aesculin (11).
- **Minerals:** Mainly potassium (20).
- **Others:** Polysaccharides and ascorbic acid (11).

#### 4. Medicinal Uses (Indications) (24)

- A) Symptomatic relief of digestive disorders, sensation of fullness and indigestion.
- B) Support the liver function, after serious medical conditions have been excluded by a medical doctor.

#### 5. Herbal preparations correlated to medicinal use

- Combination of Milk thistle dry extract and dandelion dry extract.

**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

**Adults and elderly:** 350 mg of Milk thistle dry extract and 15 mg of dandelion dry extract, twice daily, preferably with meals.

**Duration of use:** as prescribed by the physician.

**Method of administration:** Oral use.

#### 7. Contraindications.

- Hypersensitivity to active substance or to plants of the same families.
- Hormone-sensitive conditions such as breast, uterine and ovarian cancers, endometriosis or uterine fibroids (26,27).
- Obstructions of bile ducts, cholangitis, gallstones, active peptic ulcer and any other biliary diseases (2, 5,7).



- The use in patients with renal failure, diabetes and/or heart failure should be avoided because of possible risks due to hyperkalemia (4,5).

## 8. Special warnings and precautions for use (4-6)

- The use in children and adolescent under 12 years not recommended.
- If complaints or symptoms such as fever, dysuria, spasms or blood in urine occur during the use of the medicinal products, a doctor or a pharmacist should be consulted.
- If icterus or a change in colour of urine or stool appears, a doctor should be consulted immediately (24).
- If patients with conditions where reduced fluid intake is advised by a medical doctor, the product is not recommended (6).

## 9. Interactions with other medicinal products and other forms of interaction (12)

- **Antacid, H2 blockers, proton pump inhibitors:** The product may decrease their action.
- **Anticoagulants, antiplatelet, NSAIDs, salicylates:** The product may increase bleeding when used with these products.
- **Antihypertensive, insulin, anti-diabetics and hypoglycemic herbs:** The product may increase their effects, concurrent use should be avoided.
- **Diuretics and diuretic herbs:** The product may increase diuresis when used concurrent with diuretics, leading to fluid loss.
- **Lithium:** Toxicity may occur as a result of sodium excretion if the product is used concurrently with lithium.

### Lab test:

- **AST, ALT, alkaline phosphatase, APTE, INR. PT:** The product may increase these levels.
- **Blood glucose:** The product may decrease blood glucose levels.



## 10. Fertility, pregnancy and lactation (4-6, 24)

- Safety during pregnancy and lactation has not been established. In the absence of sufficient data, the use during pregnancy and lactation is not recommended.
- No fertility data available.

## 11. Effects on ability to drive and use machines (4-6, 24)

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

## 12. Undesirable effects

- Adverse effects are mainly transient, non-serious, gastrointestinal complaints.
- Silymarin may occasionally produce a mild laxative effect (2).
- Allergic reactions including anaphylaxis and pseudo allergic contact dermatitis.
- Cross reactivity has been reported in individuals with an allergy to the pollen of other members of Asteraceae family (3-5, 7).
- If adverse reactions occur, a doctor or a pharmacist should be consulted.

## 13. Overdose

- No case of overdose has been reported.

## 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

20/4/2026



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