

Egyptian Herbal Monograph

Volume 2

Medicinal Plants used in Egypt

Egyptian Drug Authority (EDA)

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Taraxacum officinale Weber

هندباء

1. Names & Synonyms

Taraxacum officinale Weber

Family: Asteraceae/Compositae (3 - 7).

Syns.: *Leontodon taraxacum* L., *Taraxacum vulgare* (Lam.) Schrank, *T. campylodes* G. E. Haglund. (1-2).

Arabic: Handebaa, Hindbeh, Hindiba هندباء

English name: Lion's Tooth (6, 8 -10), Common Dandelion (8, 9), Dandelion (1).

2. Parts used for medicinal purpose

Leaves, roots and root with herb (whole plant) (3 - 7).

3. Major chemical constituents

Generally, dandelion plant is rich in polysaccharides, phenolic acids, flavonoids, terpenoids, minerals (particularly potassium), amino acids, and vitamins (9, 11).

Roots:

- **Polysaccharides:** Inulin (9, 11).

- **Phenolic acids:** Chicoric, chlorogenic, caffeic, monocaffeoyltartaric, hydroxycinnamic, synergic, vanillic and *p*-hydroxyphenyl acetic acids (9, 11).

- **Sesquiterpene lactones:** 4,11 β , 13, 15"-Tetrahydroridentin B and taraxacolide-O-glucopyranoside (7, 12), 11,13-dihydrolactucin and ixerin D (13), and taraxinic acid D-glucopyranoside, its 11,13-dihydro-derivative (7) and ainslioside (12 - 14).

- **Minerals:** Mainly potassium (15).

- **Others: Sterols/Triterpenes:** Taraxasterol, β -taraxasterol, their acetates and their 16-hydroxy derivatives arnidol and faradiol, β -sitosterol, β -sitosterol-D-glucopyranoside and stigmasterol, and β -amyirin (12, 16, 17). A Triterpenoid: 3 β -hydroxylup-18(19)-ene-21-one in fresh roots (13).



Leaves:

- **Phenolic acids:** Chicoric, caffeic and chlorogenic acids (9).
- **Flavonoids:** Luteolin, quercetin, apigenin, and their glycosides (9).
- **Sesquiterpene lactones:** Taraxinic acid β -D-glucopyranoside and 11 β , 13-dihydrotaraxinic acid (18).
- **Coumarins:** Cichoriin and aesculin (9).
- **Minerals:** Mainly potassium (15).
- **Others:** Polysaccharides and ascorbic acid (9).

4. Medicinal Uses (Indications) (3- 5)

- A. For the relief of symptoms related to mild digestive disorders (such as feeling of abdominal fullness, flatulence, and slow digestion) and temporary loss of appetite.
- B. To increase the amount of urine to achieve flushing of the urinary tract as an adjuvant in minor urinary complaints.

5. Herbal preparations correlated to medicinal use

1. Comminuted herbal substances as herbal tea.

The dried drug is added to 150 ml of hot water as an infusion or boiled with water as a decoction.

- 1.1 Root with herb (3, 7, 10).
- 1.2 Leaf (4, 6, 10).
- 1.3 Root (5, 6, 10).

2. Dry extract of dried root with herb, extraction solvent ethanol 60% (V/V) (3, 7).

3. Liquid extract

- 3.1 Dried root with herb, extraction solvent ethanol 30% (V/V) or (m/m) (3, 7).
- 3.2 Dried leaf, extraction solvent ethanol 25% (4, 6, 10).
- 3.3 Dried root, extraction solvent ethanol 30% V/V (5).

4. Expressed juice.

- 4.1 Fresh root with herb (3).
- 4.2 Fresh leaf (4, 6).
- 4.3 Fresh root (5).

5. Tincture (1:5 in 45% alcohol).

- 5.1 Dried root with herb (3).
- 5.2 Dried leaf (6).
- 5.3 Dried root (5, 6).

6. Posology and method of administration correlated to medicinal use

Preparation 1

Indications A and B

Adolescents, adults and elderly:

Preparation 1.1: 3 - 4 g as a decoction, or 4-10 g as an infusion up to 3 times daily (3, 7).

Preparation 1.2: 4-10 g as an infusion, up to 3 times daily (5, 6, 10).

Preparation 1.3: 1 - 5 g as a decoction, 2-3 times daily (5).

Preparation 2

Indication A

Adolescents, adults and elderly:

300 mg, twice daily (4).

150 mg, 3 times daily (4).

Indication A & B

Adults: 0.75 – 1.0 g (750-1000 mg), daily (6).

Preparation 3

Indications A and B

Adolescents, adults and elderly:

Preparation 3.1: 3.15 ml, 3 times daily (3.15 ml equivalent to 3.31 g), or 1 ml, 3 times daily (1 ml equivalent to 1 g), respectively (3).

Preparation 3.2: 4-10 ml, 3 times daily (4).

Preparation 3.3: 2-8 ml, 3 times daily (5).

Preparation 4

Indications A and B

Adolescents, adults and elderly:

Preparation 4.1: 10 ml, 3 times daily (3).

Preparation 4.2: 5-10ml, once or twice daily (4, 6).

Preparation 4.3: 4-8 ml, 3 times daily (5).

Preparation 5

Indications A and B

Adolescents, adults and elderly:

Preparation 5.3: 5-10ml, 3 times daily (5).

Adults:

Preparation 5.1, 5.3: 5–10 ml, 3 times daily (6).

Preparation 5.2: 2-5 ml, daily (6).

Duration of use

If the symptoms persist longer than 2 weeks during the use of the medicinal product, a doctor or a pharmacist should be consulted (3 – 5).

Method of administration: Oral use (3 – 5).

For indication B: to ensure an increase of the amount of urine, adequate fluid intake is required during treatment.

7. Contraindications

- Hypersensitivity to the active substance or to plants of the same family (3 - 5).
- Obstructions of bile ducts, cholangitis, liver diseases, gallstones, active peptic ulcer and any other biliary diseases (4, 6, 7).
- The use in patients with renal failure, diabetes and/or heart failure should be avoided because of possible risks due to hyperkalemia (3, 4).

8. Special warnings and precautions for use (3 - 5)

- If complaints or symptoms 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
- The use in children under 12 years of age is not recommended.
- Patients with conditions where reduced fluid intake is advised by a medical doctor, dandelion root is not recommended (5).

9. Interactions with other medicinal products and other forms of interaction (10)

- **Antacids, H2-blockers, proton pump inhibitors:** Dandelion may decrease their action.
- **Anticoagulants, antiplatelets, NSAIDs, salicylates:** Dandelion may increase bleeding when used with these products.
- **Antihypertensives, insulin, antidiabetics and hypoglycemic herbs:** Dandelion may increase their effects; concurrent use should be avoided.
- **Diuretics and diuretic herbs:** Dandelion may increase diuresis when used concurrently with diuretics, leading to fluid loss and electrolyte imbalances; concurrent use should be avoided.
- **Lithium:** Toxicity may occur as a result of sodium excretion if dandelion is used concurrently with lithium.



Lab test:

- **AST, ALT, alkaline phosphatase, APTT, INR, PT:** Dandelion may increase these levels.
- **Blood glucose:** Dandelion may decrease blood glucose levels.

10. Fertility, pregnancy and lactation (3 - 5)

- 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 (3 - 5)

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 (3 - 5).
- Allergic reactions (3 - 5) including anaphylaxis and pseudoallergic contact dermatitis may occur (7). Cross-reactivity has been reported in individuals with an allergy to the pollen of other members of Asteraceae family (7).

13. Overdose

No case of overdose has been reported (3- 5).

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 last revision

02/08/2022.

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