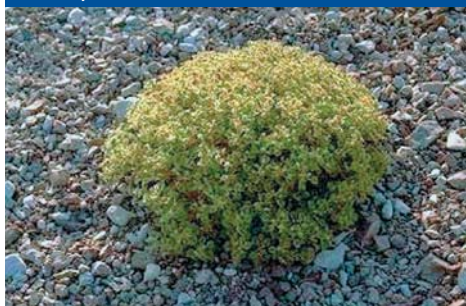


***Cleome droserifolia* (Forssk.) Delile**  
Asclepiadaceae



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### ■ Morphological Description

Perennial, low aromatic shrub, 25-60 cm, cushion-like, yellowish-green, glandular-viscid. Stems intricately branched. Leaves orbicular or broadly ovate, usually broader than they are long, 3 nerved, thick-textured, densely glandular hairy. Petiole 1-2 cm. flowers 1-1.5 cm, in the axils of upper leaves, forming a lax few-flowered raceme, bracts not differentiated from leaves, pedicels 1-1.5 cm. Sepals 4-8 X 1-2 mm, dimorphic, lanceolate. Petals 0.8-1 X 0.2-0.3 cm, greenish-yellow, appendiculate, dimorphic, 2 broad and 2 narrow. Stamens 4. Fruit 1-2 X 0.3-0.4 cm, erect. Seeds 0.5-1 mm, smooth, glabrous.

### ■ Geographical Distribution

**Local:** Eastern Desert, Red Sea region, Sinai, Gebel Elba

**Regional:** Egypt, Libya

**Global:** Arabia, Syria, Palestine, Ethiopia

### ■ Ecology

The plant grows in stony and sandy wadies and plains.

### ■ Status

In the last decade, the plant has been subject to severe overexploitation to be used in folk medicine for diabetes. It has been eradicated from vast areas, especially in the Sinai and the Eastern Desert. However, in the far south of the Eastern Desert, the plant is still flourishing and is growing in many

### ***Cleome droserifolia* (Forssk.) Delile,**

Descr. Egypte, Hist. Nat. 250 (1814).

Syn. *Roridula droserifolia* Forssk. Fl. Aegypt.-Arab. LXII, 35 (1775).

### Names

#### Arabic:

El-Samwa السموة، عفين، ربح البرد، المشطر

**English:** Cleome herb

wadis in hot desert areas. Conservation of this species is urgent.

### ■ Part(s) Used

The air-dried herb

### ■ Collection

In the flowering stage

### ■ Preparations

Powders and paste

### ■ Use

Oral, and as a paste for treatment of wounds and dermatitis.

### ■ Constituents

Volatile oil about 0.4% which consists of 3-butenylisothiocyanate, 2-methyl butenylisothiocyanate, benzylisothiocyanate, a, b, and g-caryophyllene, 2-naphthyl-n-propyl ether. Sesquiterpenes: carotol and dihydrodihydroxy carotol. Glucosinolates with sulfur aglycones e.g. glucocapparin. Flavonoids (0.295%) which consist of kaempferol-3,7-dirhamnoside, isorhamnetin-3-glucoside, kaempferol-3-glucoside, quercetin-3-glucoside, kaempferol, artemitin, 5,7,4'-trihydroxy-3-methoxy flavone, 5,7,4'-trihydroxy-3,3-dimethoxy flavone, 5,7,4'-trihydroxy-6,3'-dimethoxy flavone (jaceosidin), 5,4'-dihydroxy-3,6,7 trimethoxy-flavone (penduletin), 5,7,3',4'-tetrahydroxy-3,6-dimethoxy flavone (axillarlin), 5,3'-dihydroxy-3,6,4',5'-pentamethoxy flavone, 5,4'-dihydroxy-3,6,7,8,3'-pentamethoxy-flavone, 5-hydroxy-3,6,7,3',4',5'-hexamethoxy flavone. Sterols e.g. b-sitosterol and stigmasterol, triterpenes, saponins, coumarins, alkaloids and docosanoic acid.

## ■ Pharmacological Action and Toxicity

1. Aqueous and chloroformic extracts of the herb showed a significant reduction of blood glucose in rats.
2. Aqueous extracts of the herb showed a good antimicrobial activity against *Staphylococcus aureus*, *Streptococcus faecalis*, *Pseudomonas aeruginosa*, *Proteus vulgaris*, *Klebsiella pneumoniae*, *Escherichia coli* and *Candida albicans*.
3. LD50 = 2175 mg per Kg. Toxicity symptoms: tremors, convulsions, arched back, sweating, rapid and shallow respiration, coma followed by death.
4. Ethanolic (70%) extract of the plant has antihistaminic effect, inhibitory effect on rabbit's duodenum, uterus, rabbit's heart; a relaxant effect on guinea pigs' trachea; a decrease in arterial blood pressure; a diuretic and mild tranquilizing effect with moderate progesteron-like action.
5. Hypoglycemic and hepatoprotective. It is safe for oral administration.
6. It causes decrease in body weight in rats.
7. The plant is very toxic if given intrapretoneally.

## ■ Traditional Medicine and Indigenous Knowledge

**History:** Its name comes from the Greek 'kleio' meaning 'enclose'. This kind includes approximately 150 species of annual or persistent shrubs, originating in the tropical or subtropical zones. Paste of powder used topically for treatment of wounds and for dermatitis. Powder (5 gr.) taken before meals has been used for the treatment of hyperglycemia (diabetes).

## ■ Traditional Medicinal Uses

- Antioxidative
- Antidiuretic
- Antidiabetic
- Bronchial asthma
- Hypoglycemic effect
- Hepatoprotective
- Kidney diseases

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