Calotropis procera
Asclepiadaceae

Compiled by: Prof. F. M. Hammouda, Prof. S. I. Ismail, Dr. N. S. Abdel-Azim and Dr. K. A. Shams
Edited by: Prof. K. H. Batanouny

Calotropis procera (Aiton)
W. T. Ait. f.; Hort. Kew. Ed.2,2:68 1811.
Asclepias procera Ait.; Hort. Kew. 1:305, 1789.

Names
Arabic: Oshar عشار- عشر
Berber: Torcha, Touza, Ngeyi
English: French cotton, Mudar plant, calotropis, rubber bush, apple of Sodom, mudar, madar, king's crown, roostertree
French: Calotrope, Fatetone, Pomme de Sodome
German: Wahre Mudarpflanzer, Gomeiner
Italian: Calotropo
Spanish: Algodón extranjero, Cazuela
Turkish: Ipekag

Morphological Description
The dried root, freed from its outer cork layer, is called Mudar. It is found in commerce in short quilled pieces about 1/5 to 1/10 of an inch thick and not over 1 1/2 inch wide. Deeply furrowed and reticulated, colour greyish buff, easily separated from periderm. Fracture short and mealy, taste bitter, nauseous, acrid; it has a peculiar smell and is mucilaginous; official in India and the Colonial addendum for the preparation of a tincture. Shrub or small tree with a rough corky bark. Stems producing copious latex when broken. Leaves are glaucous, ± sessile, broad. Flowers purplish pink. Fruits are inflated. Seeds with a pappus of silky hairs. Spreading shrub or small tree to 4 m, exuding copious milky sap when cut or broken; leaves opposite, grey-green, large up to 15 cm long and 10 cm broad, with a pointed tip, two rounded basal lobes and no leaf stalk; flowers waxy white, 5 petals, purple-tipped inside and with a central purplish crown, carried in stalked clusters at the ends of the branches; fruit grey-green, inflated, 8 to 12 cm long, containing numerous seeds with tufts of long silky hairs at one end. (Kleinschmidt and Johnson, 1977)
"Tall herb with sessile, obovate, glaucous leaves less than 2 times longer than broad; bud globular, flowers umbellate, violet; coronal spurs not recurved." (Nicholson, 1991)
"Shrubs, mostly less than 6 ft., but up to 15 ft.; similar to C. gigantea, but leaves oblong to elliptic, corolla usually about 1 in. across with lobes more erect, corona lobes glabrous or pubescent, and follicle 4-5 in. long." (Bailey and Bailey, 1976)

Geographical Distribution
Local: Almost all phytogeographical regions of Egypt, except the Mediterranean region.
Regional: Egypt, Libya.
Global: Tropical to dry parts of Africa, Arabia, Palestine, W. Indies, Brazil, Columbia and Venezuela.

Ecology
Mediterranean strand vegetation, glycophyte and non-succulent. The plant grows in fine sandy soils. It is widespread in the deserts of the Middle East in areas already occupied by Bedouin settlements. It grows as a secondary vegetation after the eradication of Acacia trees for fuel making.

Status
The plant is widespread as a shrub. No fear of extinction.

Part(s) Used
Bark, root-bark.

Preparations
Tincture of Calatropis, 1/2 to 1 fluid drachm.
Powder, 3 to 12 grains

Use

Oral

Constituents

A yellow bitter resin; a black acid resin; Madaralbum, a crystalline colourless substance; Madarfluavil, an ambercoloured viscid substance; caoutchouc; and a peculiar principle which gelatinizes on being heated, called Mudarine. Lewin found a neutral principle, Calatropin, a very active poison of the digitalis type. In India the author's husband experimented with it for paper-making, the inner bark yielding a fibre stronger than Russian hemp. The acrid juice hardens into a substance like gutta-percha. It has long been used in India for abortive and suicidal purposes. Mudar root-bark is widely used there as a treatment for elephantiasis and leprosy, and is effective in cases of chronic eczema, as well as for diarrhoea and dysentery. In addition, Cardenolides are present – calotoxin, saponin and choline.

Pharmacological Action and Toxicity

1. Calotropis resembles ipecacuanha in its action; small doses are diaphoretic and expectorant, and large doses cause vomiting and diarrhoea..
2. The isolated compounds showed considerable cytotoxic activity.
3. The aqueous extract exhibited significant changes in the electro cardiogram pattern of adult anesthetized dogs and induced arrhythmic manifestations in doses of 2, 4, and 8 ml/kg body weight.
4. Alcoholic extract stimulates rabbits' intestines, the rectus abdominus muscle of frogs and contracts the uterus of virgin female rats.

Traditional Medicine and Indigenous Knowledge

History: a decoction is used in veterinary medicine, anti-leprosy. Powdered dried leaves are vermifuge in small doses. They are smoked for asthma. Fresh leaves are used in the form of cataplasm for sun stroke. Leaf extracts are cardinotonic. Roots are emetic, expectorant. Root bark is used for dysentery. Latex causes serious inflammations and may lead to blindness. It is used as a drastic purgative, emmenagogue, for bites and skin diseases. It was used by ancient Indians as arrow poison due to its slow effect on the heart similar to Digitalis. Poultices made from the leaves were applied to joints to heal rheumatism.

Traditional Medicinal Uses

- Asthma
- Cold
- Cough
- Chronic eczema
- Dysentry
- Diarrhoea
- Elephantiasis
- Heart diseases
- Leprosy
- Rheumatism
- Skin diseases

Other uses of the plant: Fruit fibres and seed hairs may be used for filling cushions and for making rope. The woody parts of this plant were burned to make charcoal, which was previously an ingredient for gunpowder. It is used for scabies of camels and goats. The leaves also served as fertilizer - dug into the ground around the roots of an ailing palm tree, they helped to make the tree more vigorous.

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