Morphological Description

Flower and Fruit: The flowers are yellow, occasionally white or pink. They are located in axillary or terminal positions on erect racemes. The calyx is deeply divided with a short tube and 5 regular, imbricate sepals. There are 5 layered petals. The 4 to 10 stamens are often irregular and partially sterile. The ovary is sessile or short-stemmed with a short or oblong style. The pod can be cylindrical or flat angular winged and often with horizontal walls between the seeds. The seeds are numerous and either horizontally or vertically compressed.

Leaves, Stem and Root: The genus Cassia comprises shrubs, subshrubs, and herbaceous perennials with paired-pinnate leaves. There are axes with stem glands either between the leaflets or on the petiole. The stipules have varying shapes.

Geographical Distribution

Local: The South Eastern desert of Egypt, Red Sea region, Sinai and Gebel Elba.
Regional: Egypt, Libya and Algeria.
Global: Central Sahara to Arabia and India, Sudan along the Red Sea coast to Somalia and Southwards to Kenya.

Ecology

C. senna is native to tropical Africa and cultivated in Egypt and the Sudan and elsewhere; it is native to India and cultivated mainly in India and Pakistan.

Status

The wild plants are overexploited and collected to be sold in the market for their folk medicinal uses. Cultivation of the plant is important. It could be cultivated with limited water resources.

Part(s) Used

Senna leaf and pods

Collection

the leaves are gathered by cutting the branches in autumn, commencing in September, exposing them to the sun until they dry.

Preparation

infusion, decoction, dried leaflets, dried pods, cold macerate, fluid extract.

Use

oral.

Constituents

Anthraquinone glycosides; in the leaf; sennosides A and B based on the aglycones sennidin A and sennidin B; sennosides C and D which are glycosides of heterodianthrones of aloe-emodin and rhein. Others include palmidin A, rhein anthrone and aloe-emodin glycosides, some free anthraquinones. In the fruit: sennosides A and B and a closely related glycoside sennoside A1. Naphthalene glycosides; tinnevellin glycoside and 6-hydroxymusizin glycoside, in both leaves and fruits. Miscellaneous; mucilage, flavonoids, volatile oil, sugars, resins.

Names

Arabic: Sana, Sana makki, Sana hindi, Sana hegazi, Salamekki
English: True senna, Alexandria senna
French: Cassia Sen
Pharmacological Actions and Toxicity

Senna is a stimulant laxative. Sennosides are cathartic. Sennosides A and C have equal purgative power in mice. Senna products along with cascara products are generally considered the drugs of choice among anthraquinone cathartics and are also generally considered safe. Excessive or prolonged use of senna may lead to colon damage and other problems. However, when senna is given in doses sufficient to produce a motion of physiological water content, it can be safely administered, even over a long period of time. Senna dose not induce specific lesions in the nerve plexus of the intestinal wall, and when used rationally, does not lead to electrolyte losses or habituation. Chronic abuse can disturb electrolyte balance, leading to potassium deficiency, heart desfunction, and muscular weakness, especially under concomitant use of heart-affecting glycosides, thiazide diuretics, corticoadrenal steroids, and licorice root. Significant inhibitory activity in mice against leukaemia has been documented for aloe-emodin. For the treatment of constipation, senna is usually administered as tablets, granula or syrup. Senna should not be given to patients with intestinal obstruction or with undiagnosed abdominal symptoms; care should also be taken by patients with inflammatory bowel disease and prolonged use should be avoided.

Non–standardized anthraquinone-containing laxative preparations should not be taken during pregnancy or lactation since their pharmacological action is unpredictable.

Pharmacopoeia
- Egyptian pharmacopoeia 1972
- British pharmacopoeia 1980
- BHP 1983.
- BHP 1990.

Pharmaceutical Products
- Sennalax Tablets (purified calcium salt of extract) (Nile).
- Mucinum Tablets (Amriya Pharm. Ind.).
- Laxative tea bags preparation. (Mepaco).
- Intestinal tea bags preparation. (Sekem).
- Eucarbon, (Sedico).

Traditional Medicine and Indigenous Knowledge

History: Senna is an Arabian name, and the drug was first brought into use by the Arabian physicians.

Traditional Medicinal Uses

Constipation: a stimulant laxative, useful for either habitual constipation or occasional use.

References

"Monograph Sennae folium", Bundesanzeiger (July 21, 1993).

General References

Bournemouth: British Herbal Association.