



Centurion
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Shaping Lives...
Empowering Communities...

EXPERIMENT NO: 2

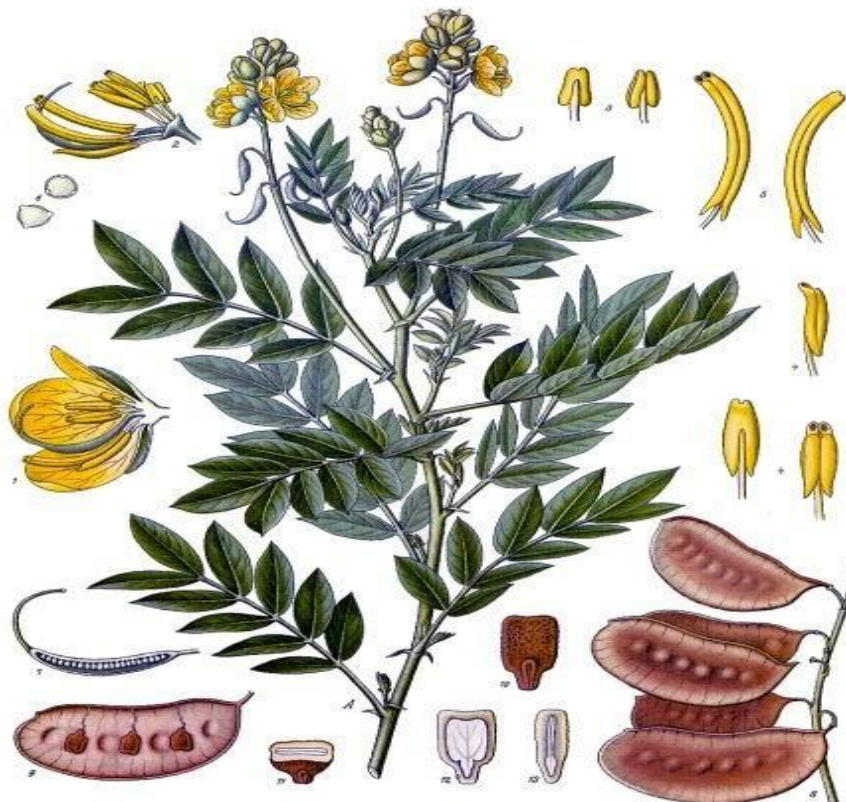
Senna leaves: Senna leaflets: Folia Sennae

Latin names:

Cassia acutifolia Vahl. *Synonym Cassia senna* L.- (Alexandrian Senna or Egyptian Senna)

Cassia angustifolia .Vahl. – (Indian Senna)

Family: *Leguminosae*



Cassia acutifolia

Notes: *Cassia acutifolia*: the leaves with acute apex

Cassia angustifolia: plant with narrow leaves

- Perennial small trees (shrubs).
- Fruits form: legume with 3-5 seeds (dark brown).
- Leaves are small & dark green, but after drying turn yellow.
- Colour: dry leaves yellowish green.
- Odour: distinctive, not penetrating.
- Taste: first slimy sweetish, later bitter and harsh.
- Origin: Mecca then cultivated in Egypt, Sudan & India.

Chemical constituents:

1. Glycosides: Anthraquinone group:
Sennoside A & B, and traces of C & D.
2. Resins, Flavone derivatives (yellow).
3. Rhein & Aloe emodin Anthraquinone (free anthraquinone).

Pharmacological effects of Sennosides

Stimulant (contact) laxative which increases intestinal motility and causes abdominal cramps (spasm).

Uses

* Treatment of constipation.

In small doses laxative, but in large doses purgative.

- **Present in the following drugs:**
(Jungborn®, Midro®, Lido®) tea, Florilax® caps, Pursennide® tab, X-prep® liquid and Eucarbon® tab.
- Also used in medicine Senna fruits which contain high percentage of Sennoside B.

Drugs:

Bekunis®- dragee.

laxikal forte® tab.

Test for Anthraquinone derivatives:

1) Brontraeger test:

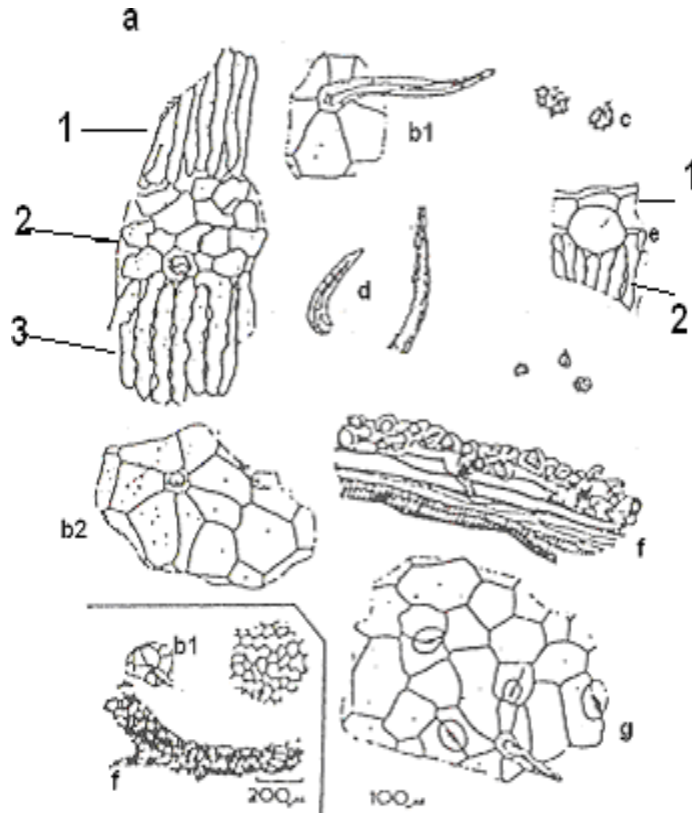
Little amount of Senna leaves (1 spatula) + NH₃ (or KOH) → red color.

2) Little amount of Senna leaves extracted with water by boiling followed by filtration, then the filtrate is treated with 5N NaOH & sod. hyposulfite, on heating → red color.

Microscopical examination:

The characteristic key elements are:

- The leaves hair (b1, d).
- Paracytic stoma (g).
- Calcium oxalate druses (c).
- Sclerenchyma fibers (vascular tissue with crystals) (f).
- Mucilaginous cell (e).



- a) Fragment with a leaf cross section, upper palisade parenchyma (1), spongy parenchyma with Ca-oxalate (2), lower palisade parenchyma (3).
- b 1) epidermal fragment with hair.
- b 2) epidermal fragment with broken hair.
- c) Calcium oxalate druses.
- d) Broken hair.
- e) Fragment of mucilaginous cell between epidermises (1) and palisade parenchyma(2).
- f) Fragment of sclerenchyma fibers.
- g) Epidermal fragment with paracytic stomata.