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LAXATIVES

1. ALOES

OFFICIAL SOURCE

The residue obtained by evaporating to dryness the liquid which drains from the leaves cut from various species of Aloe, is known in commerce as cape or curacao (or Barbadoes) aloes. The important species are : *Aloe ferox,* yielding Cape Aloes, *Aloe vera* Linn var *officinalis* (Forsk) Baker, yielding Indian and Curacao Aloes, *Aloe perryi* Baker, giving Socotrine Aloes and Zanzibar Aloes,

Family : Liliaceae.

PHYSICAL CHARACTERISTICS

Two forms of aloes are available according to its method of preparation:

1. **Hepatic, livery or opaque :** This form is produced by slow evaporation of the aloetic juice, a process which is favourable to crystallzation of one of its constituents, namely barbaloin. Under the microscope this substance may be seen in minute crystals and their presence renders this form of aloes opaque to the eye.
2. **Vitrous, glassy, or transparent :** This form is produced by rapid evaporation of the aloetic juice at or near to its boilng points a process unfavourable to crystallization of the barbaloin. As a consequence this form is free from embeded crystals, and appears transparent and glassy.

The general comparative characters, given below have reference to typical specimens but in commerce the drug exhibits considerable variation.

Morphological Characters

Characters	Cassia angustifolia	Cassia acutifolia
1. Colour	Pale yellowish green, the yellow colour more pronounced on upper surface	Pale greyish green
2. Texture	Thin & some what flexible	Thin and brittle
3. Hairs	Scattered over both surfaces short usually pale & covered near the base	Some as in Tinnevelly senna. Numberous on Alexendrian senna
4. Taste	Mucilaginous	Mucilaginous
5. Odour	Faint, but distinctive	Faint, but distinctive
6. Size	2.5-5.0 cm long	2.0-4.0 cm long
7. Shape	Lanceolate, only slightly asymmetrical	Ovate lanceolate, conspicuously asymmetrical
8. Margin	Entire, flat	Entire, curved
9. Apex	Less acute and with a sharp spine	Acute with a sharp spine
10. Base	Somewhet asymmetrical	Conspicuously asymmetrical
11. Veins	Pinnate, distinct on the lower surface.	Pinnate

MORPHOLOGY OF THE PODS

The pods are unilocular, laterally flattened and dehiscing by both sutures. They are about 5 cm long and 2 cm broad having broad oblong shape, round apex and contain 5-8 seeds.

CHEMICAL TESTS

Borntrager's and modified Borntrager's test as given under aloe are positive due to the presence of anthraquinone derivatives.

T.S. OF LEAFLET

1. **Epidermis (upper and lower) :** Polygonal tulular cells having straight anticlinal walls. The inner periclinal wall contain mucilage and can be stained with ruthenium red. The epidermal trichomes are simple,

nitroprusside solution (2 ml) and make alkaline with sodium hydroxide solution. It shows pink to red colour.

3. **Killer-Kiliani test for deoxy sugars :** Boil about 1g of the powered drug with 70% alcohol for 3 minutes, filter and to the filtrate add 5 ml water and 0.5 ml of strong solution of lead acetate, shake well and filter. The clear filtrate in extracted with equal volume of chloroform and chloroform layer is evaporated. The residue is dissolved in 3 ml of glacial acetic acid and to this two drops of ferric chloride solution are added. The contents are transferred to a test tube containing 2 ml of concentrated sulphuric acid. A reddish brown layer acquiring bluish green colour after standing is formed due to digitoxose.

2. ARJUNA BARK

Arjuna is the dried bark of *Terminalia arjuna.*

Family : Combretaceae

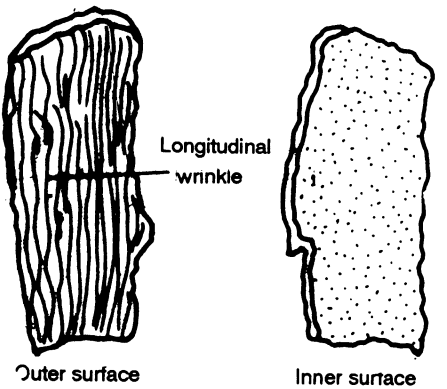

Fig. 5. Arjuna Bark

MORPHOLOGY OF THE BARK

Size : Pieces of varying size upto 15 cm or more in length 10 cm or more in breadth and 3 mm to 1 cm thick.

Shape : Flat or slightly curved.

Outer surface : Smooth and grey, coloured

Inner surface : Finely striated, brown

Fracture : Short revealing stratified nature of the bark.

Odour : None

Taste : Astringent

longitudinally directed in the outer layers, and tangentially directed in the inner layers. In the secondary ridges all the cells run tangentically while in the primary ridges all run longitudinally. Mesocarp in between the sclerenchymatous bands is composed of irregular polygonal cells with lignified walls.

Endocarp : It is made of typical parquetry cells.

Testa : Brown flattened cells in single layer.

Endosperm : It is composed of colourless parenchyma cells containing fixed oil and aleurone grains. It is curved in shape. Rosettes of calcium oxalate are present.

2. FENNEL

Fennel is a ripe fruit of *foeniculum vulgare*

Family : Umbelliferae

Morphological Character

General appearance : Entire creamocrap usually with pedicel

Shape : Straight or slightly curved

Size : 5-10 mm long. 2-4 mm broad

Surface : Glabrous with 5 straight prominent primary ridges and a bifid stylopod at the apex.

Odour : Aromatic

Taste : Characteristic aromatic taste.

T.S. OF FENNEL

Fennel is a typical umbelliferous fruit called cremocarp. Each cremocrp consist of two mericarps connected by central stalk called carpophore. T.S. of mericarp shows two prominent surfaces. Commisural and dorsal. Commisural surface is flat with two ridges and three ridges are present in the dorsal surface.

The cremocarp is divided into two mericarps and each mericarp consists of the following structures.

Epidermis : It is composed of single laryer of polygonal tangentially elongated cells with smooth cuticle.

Mesocarp : It consist of two types of cells.

Reticulate lignified parenchyma is present surrounding the bicollateral vascular bundles while the other type is made up of ordinary polyhederal cells.