

Macroscopic and Microscopic Identification of Cortex type of Decoction Pieces Commonly Found in Hong Kong



Phyllanthi Emblicae Cortex

Source The dried bark of *Phyllanthus emblica* L. in the family Euphorbiaceae

Property and Flavour Slightly cold; sweet, astringent

Meridian Affinity Lung and large intestine meridians

Actions To clear heat and drain dampness, remove wind and relieve itch

Production Area Mainly produced in Fujian, Guangdong, Guangxi, Sichuan, Guizhou, Yunnan, etc.



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Macroscopic Identification Features

Shape Quilled, some in flat slices

Outer surface is greyish-white or light yellowish-brown, rough and has wrinkles and cracks

Lenticel is elliptical or oblong

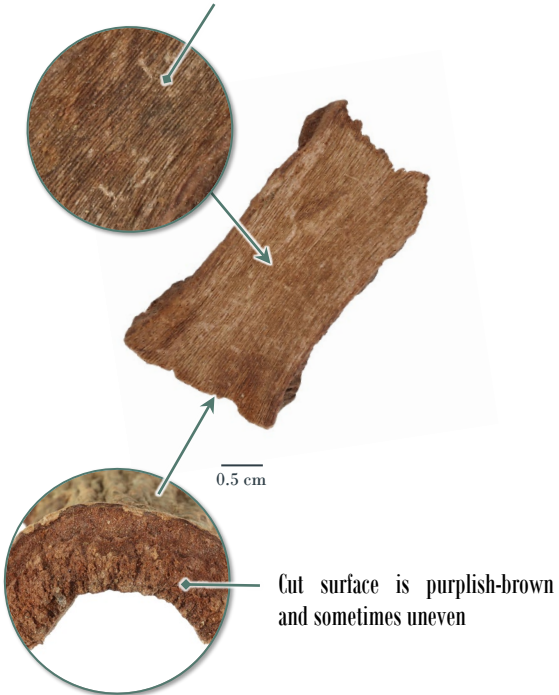
Some cork is exfoliated

Sometimes covered with patches of lichen

0.5 cm



Inner surface is purplish-brown or greyish-brown and has fine and straight striations



Cut surface is purplish-brown and sometimes uneven



Texture Hard and compact

Fracture Not available (Hard to break)

Odour Slight

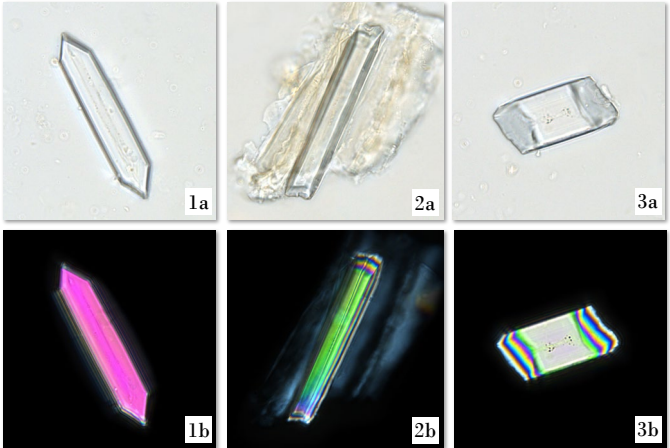




Features of Easy Powder Microscopic Identification

- Crystal -

Columnar crystal of calcium oxalate



50 μ m

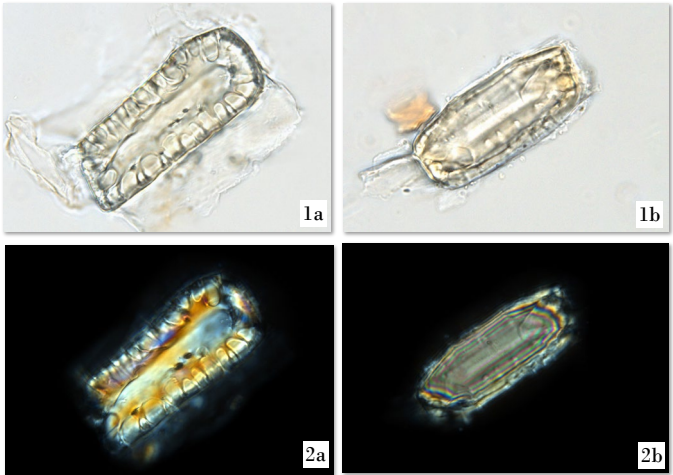
Numerous, columnar, scattered, or present in parenchymatous cell or stone cell, pointed (1) or nearly truncate (2) at both ends, some are relatively short (3); polychromatic under polarized light microscope

a. features under bright field; b. features under polarized light



- Sclerenchyma -

Stone cell



Singly scattered or in groups, appears sub-square, sub-rectangular, sub-polygonal or sub-triangular, wall is slightly thick or thick, with pit canals and pits (1), some contain columnar crystal of calcium oxalate (2); bright white, orange-yellow or polychromatic under polarized light microscope

a. features under bright field; b. features under polarized light

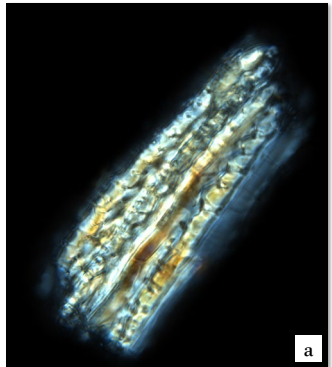




Additional Features of Powder Microscopic Identification

- Sclerenchyma -

Fibre



50 μm

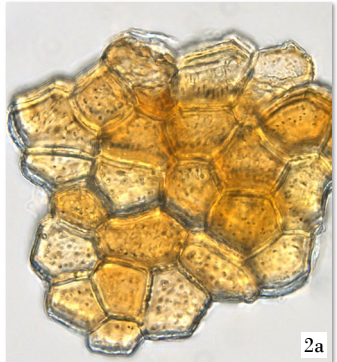
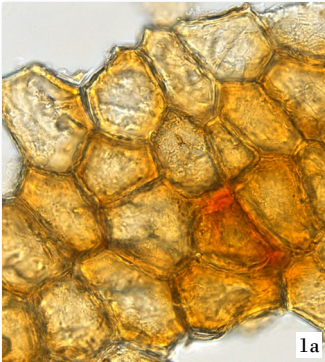
Mostly in bundles, wall is thick or extremely thick, with distinct pit canals, some with pits; orange-yellow, bright white or polychromatic under polarized light microscope

a. features under bright field; b. features under polarized light



- Protective tissue -

Cork cell



50 μ m

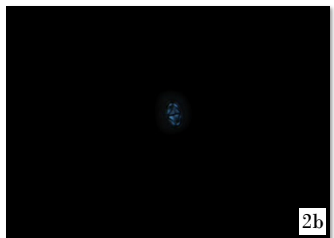
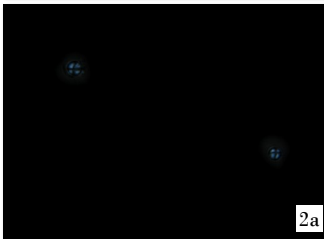
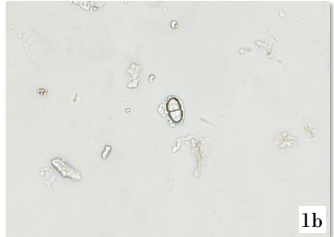
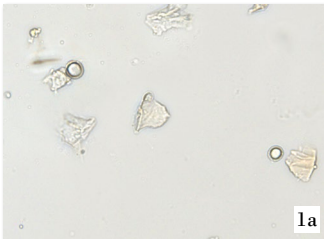
Brown or yellowish-brown, appears sub-polygonal (1) in surface view, some with pits (2)

a. features under bright field; b. features under polarized light



- Starch -

Starch granule



50 μ m

Barely found, small, mainly in simple granule (1), appears sub-rounded, compound granule (2) is fewer, consists of 2-5 units; relatively dim, and black and cruciate-shaped under polarized light microscope

a. features under bright field; b. features under polarized light





Key Identification Features

- Macroscopic features -

- ◇ Outer surface is rough and the lenticel is elliptical or oblong. Some cork is exfoliated
- ◇ Texture hard and compact, and hard to break

- Powder Microscopic features -

- ◇ Columnar crystal of calcium oxalate is numerous, and pointed or nearly truncate at both ends
- ◇ Stone cell has pit canals and pits. Some stone cells contain columnar crystal of calcium oxalate

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