

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



## Cortex Meliae\*

**Source** The dried stem bark or root bark<sup>#</sup> of *Melia toosendan* Sieb. Et Zucc.<sup>^</sup> or *Melia azedarach* L. in the family Meliaceae

**Property and Flavour** Cold; bitter; toxic


**Meridian Affinity** Liver, spleen and stomach meridians

**Actions** To kill parasitic worms, treat tineas<sup>&</sup>

**Production Area** Mainly produced in Sichuan, Hubei, Guizhou, etc.

Note :

\* Its name in Chinese Pharmacopoeia (2025 Edition) is "Meliae Cortex".

<sup>^</sup> The scientific name of the plant source in Chinese Pharmacopoeia (2025 Edition) is "*Melia toosendan* Sieb. et Zucc.". 

<sup>#</sup> The medicinal part listed in Chinese Pharmacopoeia (2025 Edition) is "stem bark and root bark".

<sup>&</sup> Use with caution during pregnancy and in patients with hepatic insufficiency or renal insufficiency.

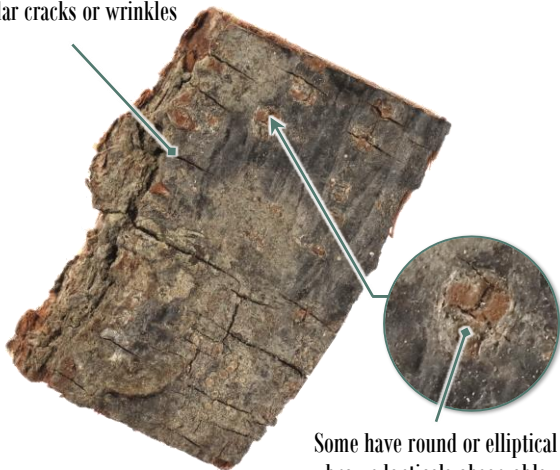




## Macroscopic Identification Features

**Shape** In slices, some are slightly curved

Cork on the outer surface is greyish-brown, rough and has irregular cracks or wrinkles

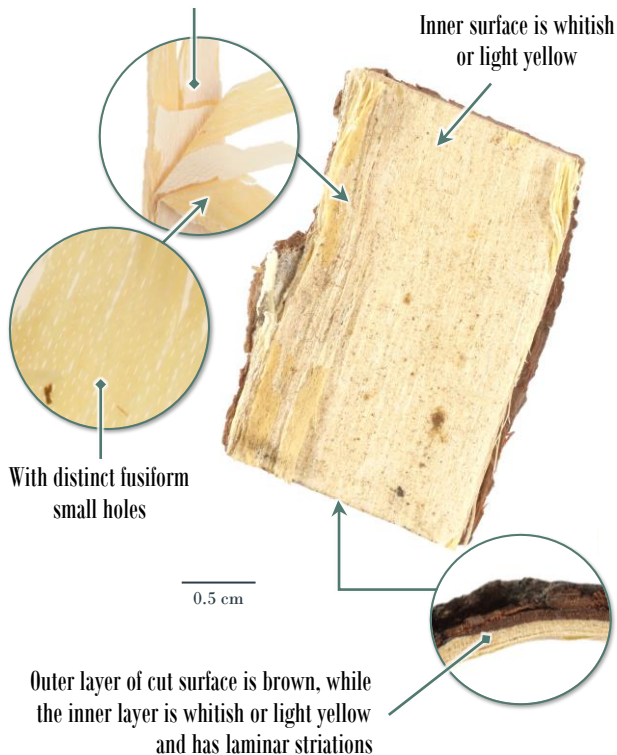


0.5 cm

Some have round or elliptical brown lenticels observable



Easily exfoliated, can be divided into multiple thin layers of yellow and white arranged in an alternative pattern



**Texture** Tough, not easily broken

**Fracture** Fibrous, laminated



0.5 cm

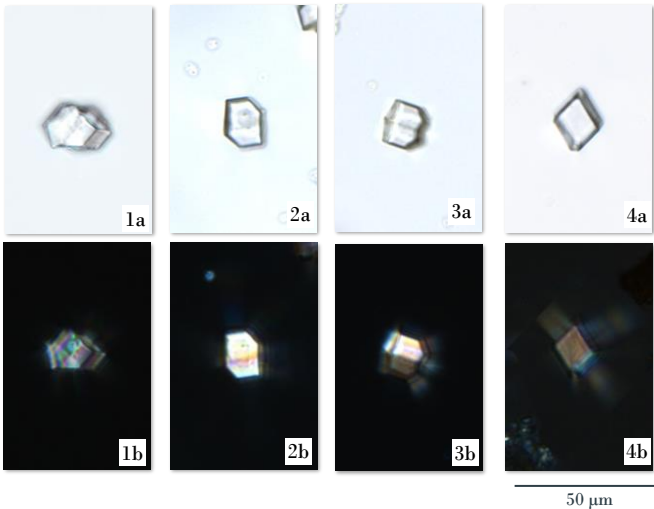
**Odour** Slight



# Features of Simplified Powder Microscopic Identification

## -Crystal-

### Prism of calcium oxalate

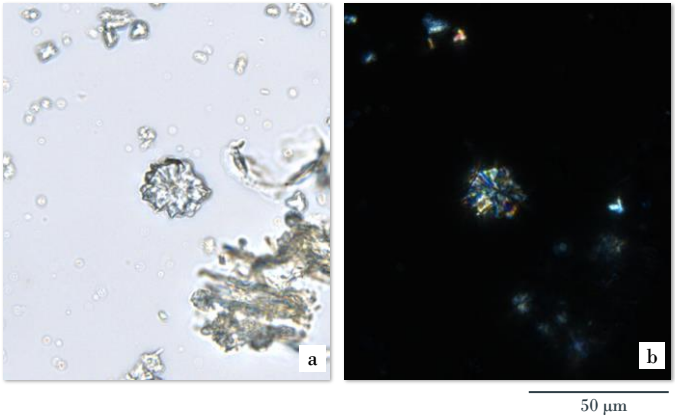


Scattered or present in parenchymatous cell, appears polyhedron (1), polygonal (2), sub-double conical (3) or rhombic (4); polychromatic under polarized light microscope

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



## Cluster of calcium oxalate



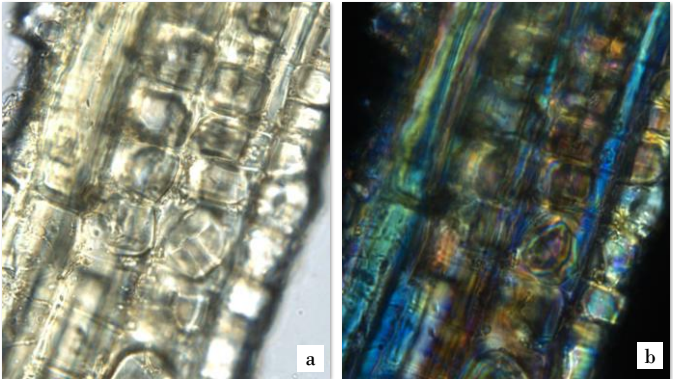
Occasionally found, scattered; polychromatic under polarized light microscope

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



## -Sclerenchyma-

### Crystal fibre



50 µm

Fibre is mostly in bundles, surrounded by parenchymatous cells containing prism of calcium oxalate to form crystal fibre; polychromatic under polarized light microscope

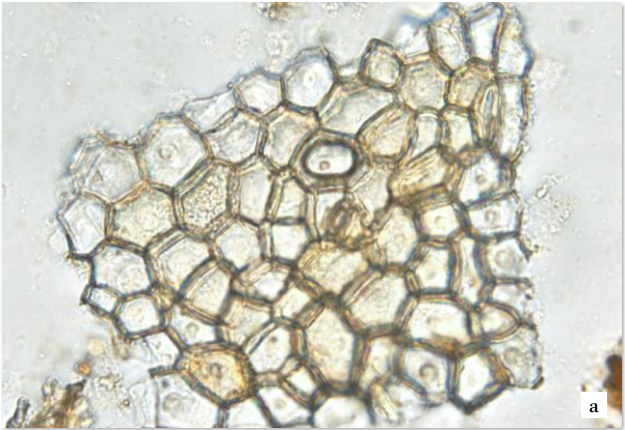
*a. features under bright field; b. features under polarized light*



# Additional Features of Powder Microscopic Identification

## -Protective tissue-

### Cork cell

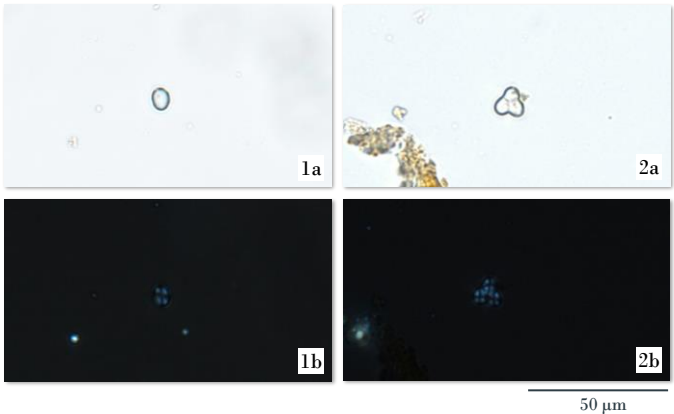


50  $\mu$ m

Appears polygonal in surface view, some contain brownish-yellow substances

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



**-Starch-****Starch granule**

Mostly simple granule (1), sub-rounded, compound granule (2) is occasionally found, consists of 2 to multiple 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 -

- ◇ Cork on the outer surface is rough and has irregular cracks or wrinkles. Some have round or elliptical brown lenticels observable
- ◇ Inner surface can be divided into multiple thin layers of yellow and white arranged in an alternative pattern and has distinct fusiform small holes
- ◇ Fracture is fibrous and laminated

### - Powder microscopic features -

- ◇ Prism of calcium oxalate appears polyhedral, polygonal, sub-double conical or rhombic
- ◇ Fibre is mostly in bundles and surrounded by parenchymatous cells containing prism of calcium oxalate to form crystal fibre

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