

Cortex Acanthopanacis versus Caulis Hedyotidis



Source

***Cortex Acanthopanacis**
is the dried root bark of
Acanthopanax gracilistylus W. W. Smith
in the family Araliaceae

Caulis Hedyotidis
is the dried lianoid stem of
Hedyotis hedyotideia (DC.) Merr.
in the family Rubiaceae

Overview

Cortex Acanthopanacis, Chinese Materia Medica (CMM), is listed in both Schedule 2 of the Chinese Medicine Ordinance and the Chinese Pharmacopoeia (2020), while Caulis Hedyotidis has not yet been included in either reference. According to *Species Systematization and Quality Evaluation of Commonly Used Chinese Traditional Drugs*, Cortex Acanthopanacis is commonly used since it possesses the function of dispelling wind to eliminate dampness and strengthening sinew and bone. On the other hand, Caulis Hedyotidis is a herbal medicine used in the Guangdong and Guangxi regions. According to *Chinese Materia Medica Standards in Guangdong Province*, Caulis Hedyotidis is also called “*Tu jia pi*”, which possesses the function of clearing heat to release summerheat, dispelling wind to activate collaterals and dispersing swelling to relieve pain. As these two CMM possess different functions, they should be used accordingly.

Note:

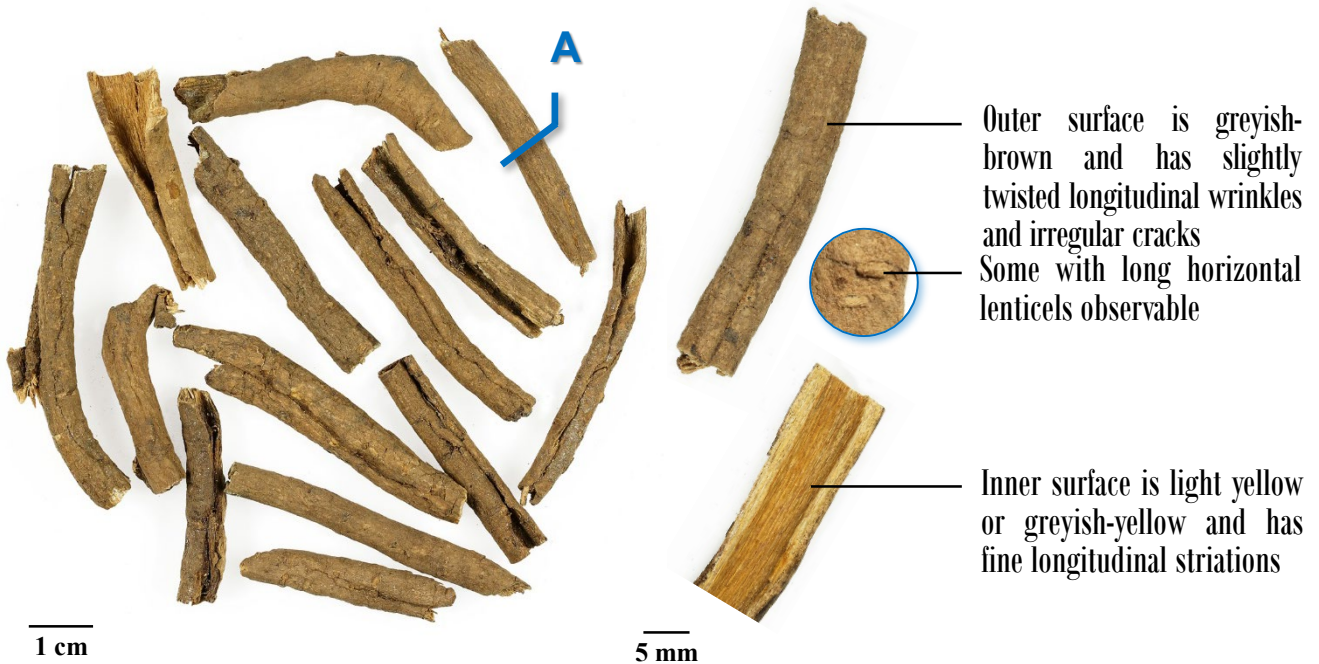
*Its name in the Chinese Pharmacopoeia (2020) is “Acanthopanacis Cortex”.

Key identification features

Macroscopic features of Cortex Acanthopanax



- ◆ Irregular-quilled, some in flat slices



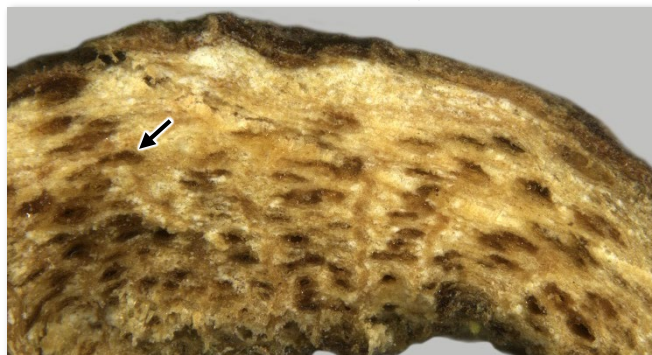
Outer surface is greyish-brown and has slightly twisted longitudinal wrinkles and irregular cracks
Some with long horizontal lenticels observable

Inner surface is light yellow or greyish-yellow and has fine longitudinal striations

- ◆ Fragile, easily broken

Micro-morphological feature

A: Bark with yellowish-brown or brown dotted secretory canals scattered, some secretory canals are hollow



(Cut surface)

500 µm

Macroscopic features of Caulis Hedyotidis decoction pieces

- ◆ Mostly sub-rounded or sub-elliptical oblique slices, some appears tetragonal



1 cm

5 mm

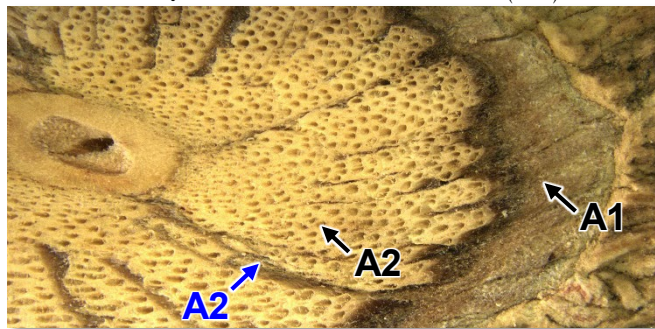
Surface is greyish-white or greyish-yellow, some appear brown. With slightly twisted longitudinal grooves. Lenticel is barely observable
Bark is narrow, greyish-white, greyish-yellow or light brown in the cut surface
Wood is broad, yellowish-white or yellow and has sparse radial striations

Old stem with irregular striations due to the presence of anomalous vascular bundles
Small pith, some are hollow

- ◆ Hard, not easily broken

Micro-morphological features

A1: Bark is narrow and darker in colour near the wood
A2: Wood is densely distributed with duct holes(→), and rays which are darker in colour(→)

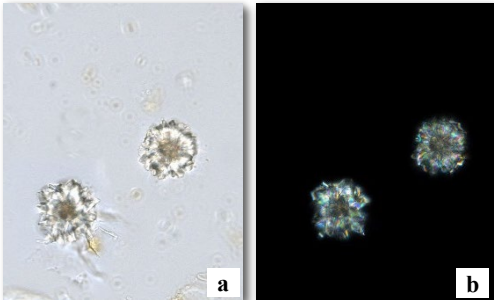
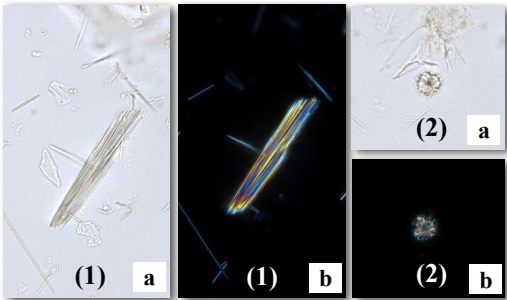
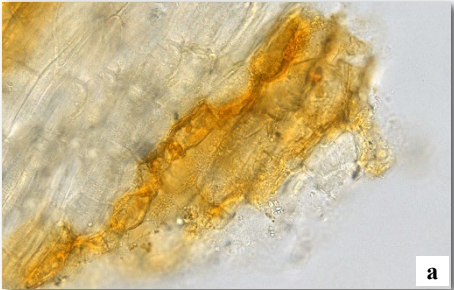

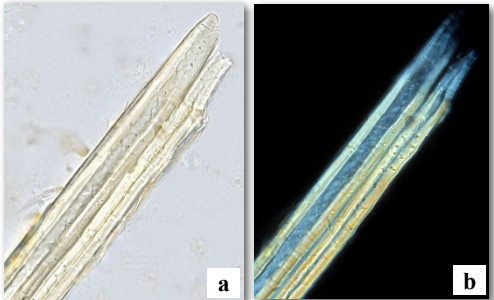
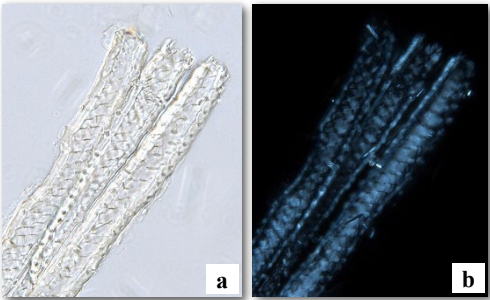


(Cut surface)

2 mm

Microscopic feature comparison of Cortex *Acanthopanax* and *Caulis Hedyotidis* decoction pieces powder



	Cortex <i>Acanthopanax</i>	<i>Caulis Hedyotidis</i> decoction pieces
Crystal of calcium oxalate	 <p>Only with cluster of calcium oxalate, scattered or present in the parenchymatous cell, relatively large; polychromatic under the polarized light microscope</p>	 <p>With raphide of calcium oxalate(1) and cluster of calcium oxalate(2). Numerous raphides of calcium oxalate, cluster of calcium oxalate relatively small, scattered or present in the parenchymatous cell; polychromatic under the polarized light microscope</p>
Fragment of secretory canal	 <p>Containing light yellow or yellowish-brown secretions</p>	 <p>Absent</p>
Fibre	 <p>Phloem fibre visible, singly scattered or several in bundles, with sparse pits and pit canals; bright white, orange-yellow or polychromatic under the polarized light microscope</p>	 <p>Fibre tracheid numerous, mostly in bundles, with dense pits and pit canals; bright white or orange-yellow under the polarized light microscope</p>

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

50 μm

Summary

Major differences in the features between Cortex Acanthopanax and Caulis Hedyotidis decoction pieces:

		Cortex Acanthopanax	Caulis Hedyotidis decoction pieces
Macroscopic and micro-morphological features	Shape	Mostly irregular-quilled	Mostly sub-rounded or sub-elliptical oblique slices
	Texture	Fragile, easily broken	Hard, not easily broken
	Cut surface	Bark with dotted secretory canals scattered	Bark is narrow, wood is densely distributed with duct holes
Microscopic features	Crystal of calcium oxalate	Only with cluster of calcium oxalate	With raphide of calcium oxalate and cluster of calcium oxalate
	Fragment of secretory canal	Present	Absent
	Fibre	Phloem fibre	Fibre tracheid

For more information, please refer to the [Hong Kong Chinese Materia Medica Standards website](#):



Acanthopanax Cortex - Hong Kong Chinese Materia Medica Standards (Volume 6)

Additional information

Photo of crude Caulis Hedyotidis



- ◆ Sub-rounded pieces or tetragonal sections. 1-6 cm long, 0.2-1.2 cm in diameter
- ◆ Surface is rough, greyish-white or greyish-yellow, relatively straight and has relatively fine protruding longitudinally straight vein striations. Appears greyish-green after the surface layer of periderm has been scraped
- ◆ Old stem shows chrysanthemum-like striations (anomalous vascular bundles). Fibrous and has small pith
- ◆ The fracture has light greyish-brown bark, yellowish-white or light yellow wood accounted for the majority, and mostly hollowed pith
- ◆ Greyish-white lenticel spots, which are protruding and interconnected, are observable on the old stem
- ◆ Hard and tough, not easily broken
- ◆ Odourless, slightly sweetish taste



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