

Folium Isatidis versus Folium Baphicacanthi Cusiae



Source

***Folium Isatidis**
is the dried leaf of
Isatis indigotica Fort.
in the family Cruciferae

Folium Baphicacanthi Cusiae
is the dried stem and leaf of
Baphicacanthus cusia (Nees) Bremek.
in the family Acanthaceae

Overview

Folium Isatidis is listed in both Schedule 2 of the Chinese Medicine Ordinance and the Chinese Pharmacopoeia (2020). On the other hand, Folium Baphicacanthi Cusiae has not been recorded in either reference. Many commodities named “*Da qing ye*” are often found to be different species. According to the research by *Zhong hua ben cao*, there are five different kinds of Chinese Materia Medica (CMM) documented as “*Lan*” in the *Ben cao gang mu* of the Ming Dynasty, which include *Isatis indigotica*, *Polygonum* and *Baphicacanthus*, etc. According to the *Species Systematization and Quality Evaluation of Commonly Used Chinese Traditional Drugs*, the main source of “*Da qing ye*” is the leaf of *Isatis indigotica* in the family Cruciferae; while in Fujian, Guangdong, Guangxi, Yunnan, and parts of Sichuan, the leaf of *Baphicacanthus cusia* in the family Acanthaceae is the most customarily used. According to the Chinese Pharmacopoeia and *Zhong hua ben cao*, both CMM have the functions of clearing heat and detoxifying. Furthermore, Folium Isatidis can cool the blood and resolve macula, while Folium Baphicacanthi Cusiae can also cool the blood to stop bleeding. Due to differences in functions of the two CMM, they should be used accordingly.

Note:

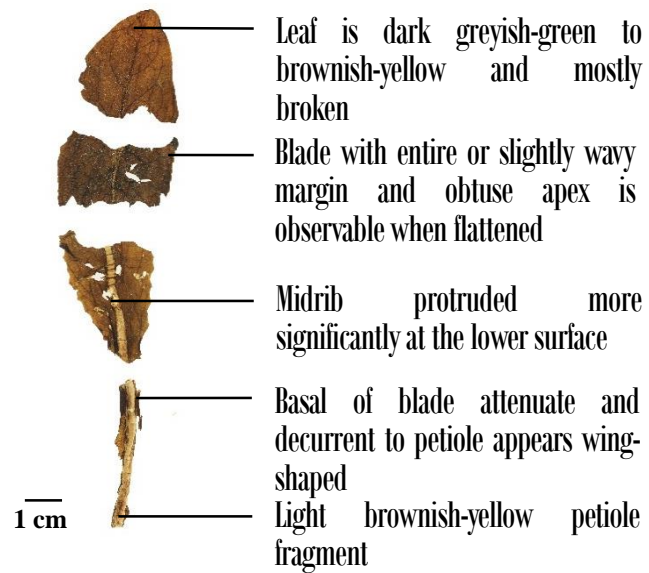
*Its name in Chinese Pharmacopoeia (2020) is “Isatidis Folium”.

Key identification features

Macroscopic features of Folium Isatidis decoction pieces



◆ Mostly irregular sections



Micro-morphological feature

A: Glabrous



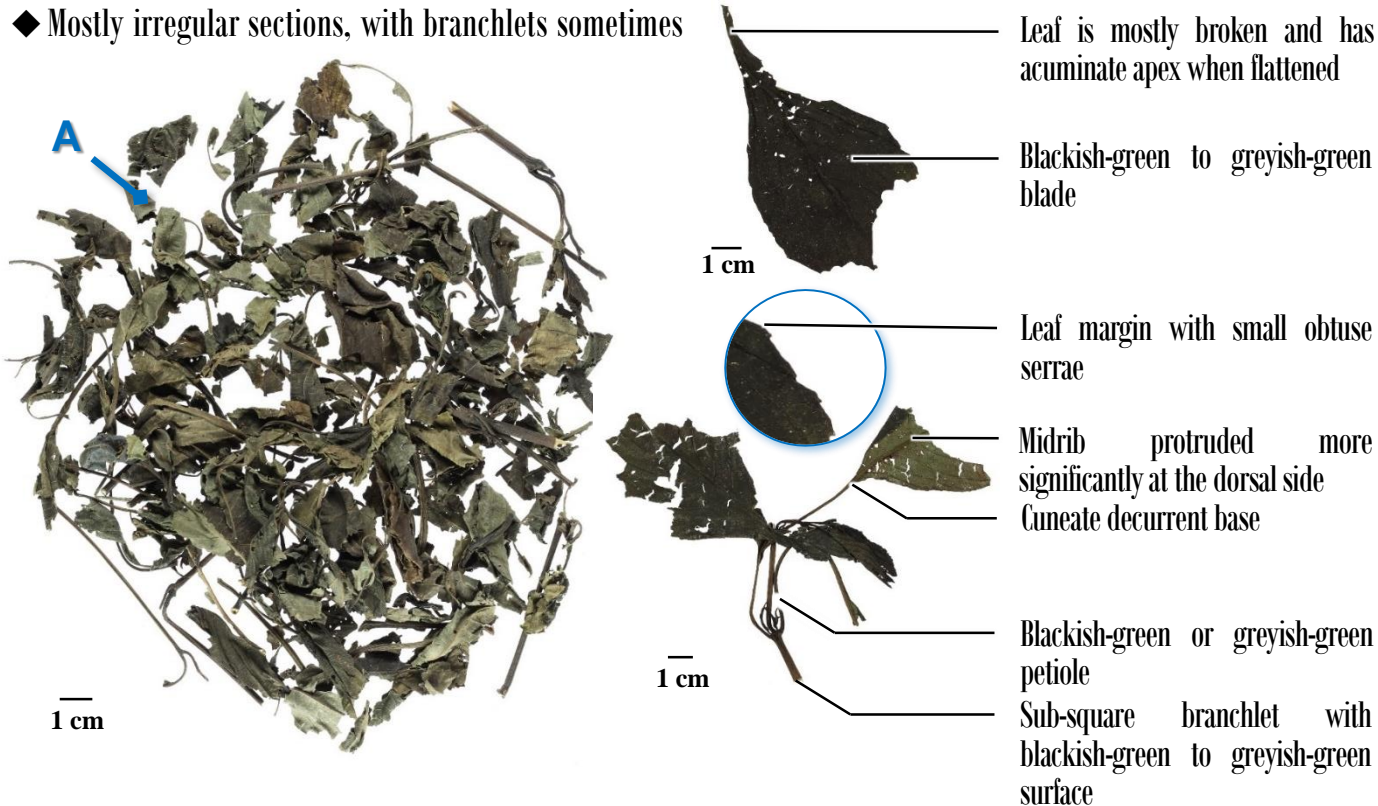
(Lower surface of the leaf)

1 mm

Macroscopic features of Folium Baphicacanthi Cusiae decoction pieces

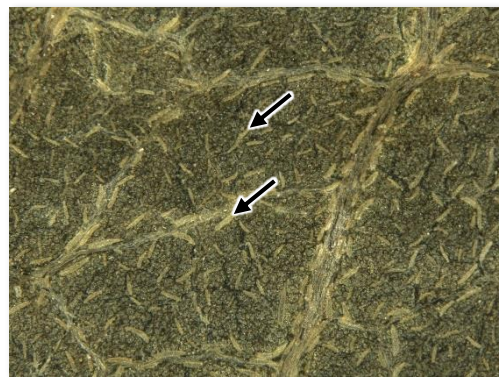


◆ Mostly irregular sections, with branchlets sometimes



Micro-morphological feature

A: With numerous non-glandular hairs







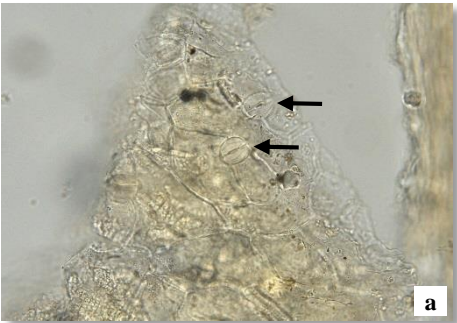
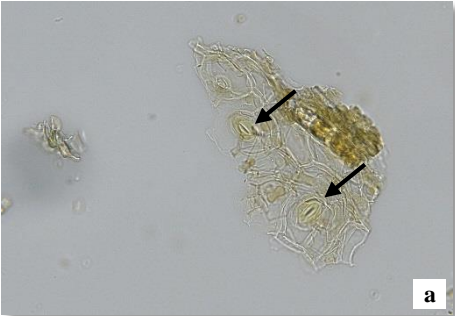


(Lower surface of the leaf)

0.5 mm

Microscopic feature comparison of Folium Isatidis decoction pieces and Folium Baphicacanthi Cusiae decoction pieces powder



	Folium Isatidis decoction pieces	Folium Baphicacanthi Cusiae decoction pieces
Glandular scale	<div></div> <p>Absent</p>	<div></div> <p>Head consists of 4 cells, occasionally consists of 6 or 8 cells; unicellular stalk</p>
Cystolith	<div></div> <p>Absent</p>	<div></div> <p>Frequently found, light yellow or colourless, long elliptical or elliptical; mostly white or yellowish-white under the polarized light microscope</p>
Epidermal cell of leaf	<div></div> <p>Anticlinal wall slightly curved and slightly beaded-thickened; anisocytic stomata (→), 3-4 subsidiary cells</p>	<div></div> <p>Nearly straight or slightly curved anticlinal wall; diacytic stomata (→)</p>

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

50 μm

Summary

Major differences in the features between Folium Isatidis decoction pieces and Folium Baphicacanthi Cusiae decoction pieces:

		Folium Isatidis decoction pieces	Folium Baphicacanthi Cusiae decoction pieces
Macroscopic and micro-morphological features	Appearance	Mostly irregular sections	Mostly irregular sections, with branchlets sometimes
	Blade	Obtuse apex, basal attenuate and decurrent to petiole appears wing-shaped, entire or slightly wavy margin	Acuminate apex, cuneate decurrent base, leaf margin with small obtuse serrae
	Lower surface of the leaf	Glabrous	With numerous non-glandular hairs
Microscopic features	Glandular scale	Absent	Present
	Cystolith	Absent	Present
	Epidermal cell of leaf	Anisocytic stomata	Diacytic stomata

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



Isatidis Folium - Hong Kong Chinese Materia Medica Standards (Volume 4)

Additional information

Photo of crude Folium Isatidis



- ◆ Mostly shriveled and curved, some broken

Intact blade appears long elliptical or oblong-oblancoelate, 5-20 cm long, 2-6 cm wide. Upper surface is dark greyish-green, some with darker and slightly protruded dots observable. Obtuse apex, entire or slightly wavy margin, basal attenuate and decurrent to petiole appears wing-shaped

Light brownish-yellow petiole 4-10 cm long

- ◆ Fragile
- ◆ Slight odour. Slightly sour, bitter and astringent taste

Photo of crude Folium Baphicacanthi Cusiae



- ◆ Mostly shriveled to irregular masses, with branchlets sometimes. Appears blackish-green or greyish-green

Intact blade is long elliptical or obovate-oblong, 5-15 cm long, 3-5 cm wide. Leaf margin with small obtuse serrae, acuminate apex, cuneate decurrent base, midrib protruded more significantly at the dorsal side

- ◆ Papyraceous, fragile and easily broken
- ◆ Slight odour and weak taste



Government Chinese Medicines Testing Institute
Department of Health
Enquiry Hotline: 3188 8079
Website: www.cmro.gov.hk

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