

Herba Lysimachiae versus Herba Desmodii Styracifolii



Source

***Herba Lysimachiae**
is the dried whole part of
Lysimachia christinae Hance
in the family Primulaceae

Herba Desmodii Styracifolii[#]
is the dried aerial part of
Desmodium styracifolium (Osb.) Merr.
in the family Leguminosae

Overview

Both Herba Lysimachiae and Herba Desmodii Styracifolii are Chinese Materia Medica (CMM) listed under Schedule 2 of the Chinese Medicine Ordinance and the Chinese Pharmacopoeia (2020). According to the *Species Systematization and Quality Evaluation of Commonly Used Chinese Traditional Drugs*, various species of “*Jin qian cao*” are used across China for treating lithiasis and hepatobiliary diseases. Among these species, *Lysimachia christinae* (in the family Primulaceae), mainly produced in Sichuan, is called Herba Lysimachiae. Whereas another species *Desmodium styracifolium* (in the family Leguminosae), mainly produced in Guangdong and Guangxi, is known as Herba Desmodii Styracifolii. According to the Chinese Pharmacopoeia, these two CMM exert functions like dampness-draining and anti-icteric, as well as promoting diuresis to relieve strangury. Herba Lysimachiae can, in addition, detoxify and disperse swelling. As differences exist between the functions of these two CMM, they should be used differently during clinical application.

Note:

*Its name in Chinese Pharmacopoeia (2020) is “Lysimachiae Herba”.

[#]Its name in Chinese Pharmacopoeia (2020) is “Desmodii Styracifolii Herba”.

Key identification features

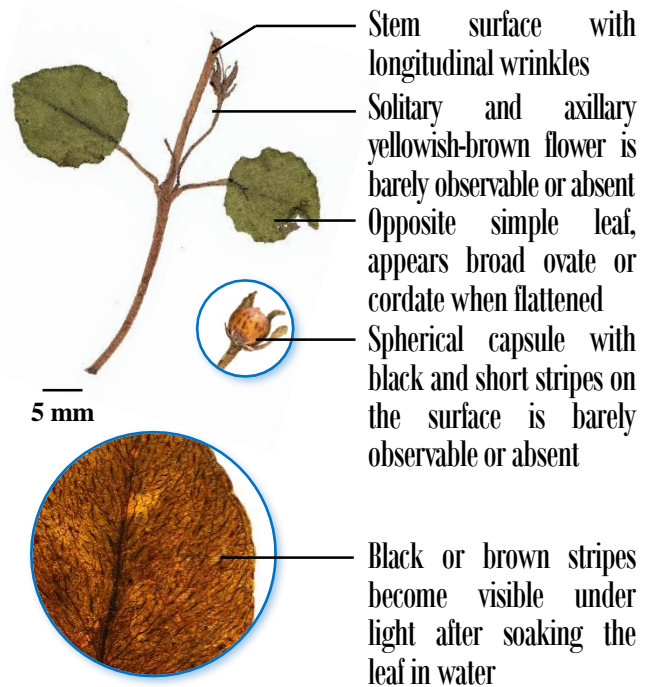
Macroscopic features of Herba *Lysimachiae* decoction pieces



◆ Irregular sections



1 cm



Stem surface with longitudinal wrinkles

Solitary and axillary yellowish-brown flower is barely observable or absent

Opposite simple leaf, appears broad ovate or cordate when flattened

Spherical capsule with black and short stripes on the surface is barely observable or absent

Black or brown stripes become visible under light after soaking the leaf in water

Micro-morphological features

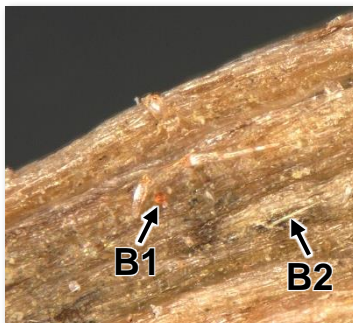
A1: With light brownish-yellow to reddish-brown small glandular dots
A2: With glandular dot scars remained



(Surface of the leaf)

200 μm

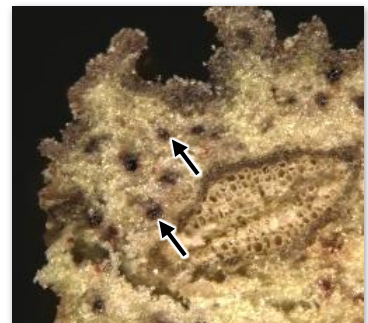
B1: With small glandular dots
B2: With non-glandular hairs



(Surface of the stem)

200 μm

C: With brownish-yellow to reddish-brown dotted secretory canals in the bark

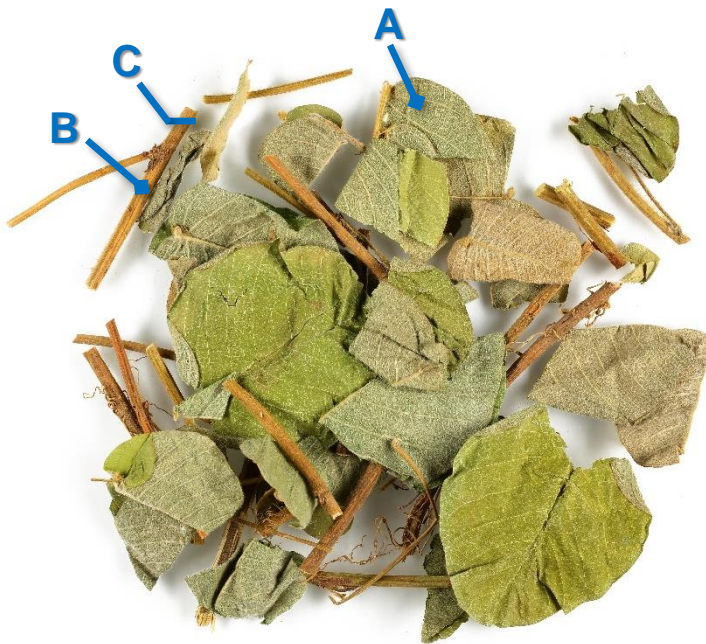


(Transverse section of the stem)

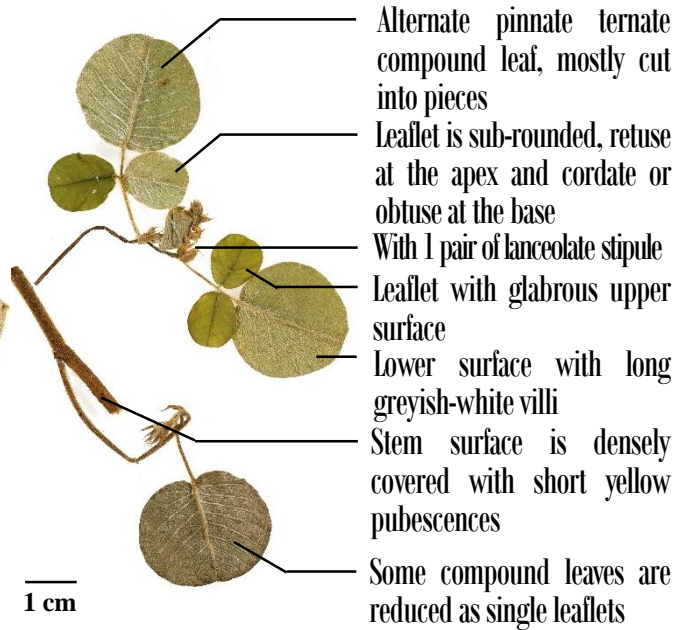
200 μm

Macroscopic features of Herba Desmodii Styracifolii decoction pieces

◆ Irregular sections



1 cm



1 cm

Micro-morphological features

A: With long greyish-white villi

B: With short pubescences

C: Without dotted secretory canals



(Lower surface of the leaf)

500 μm



(Surface of the stem)

500 μm


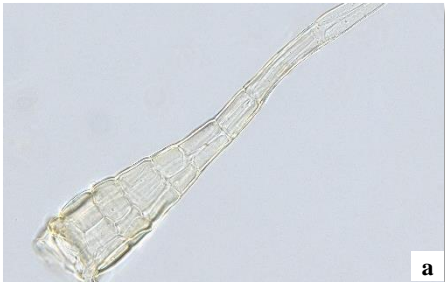

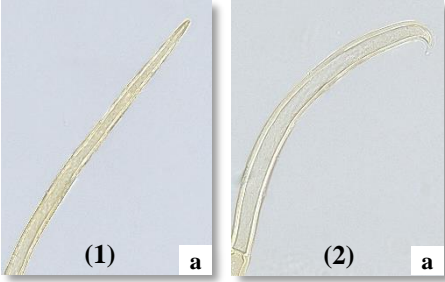

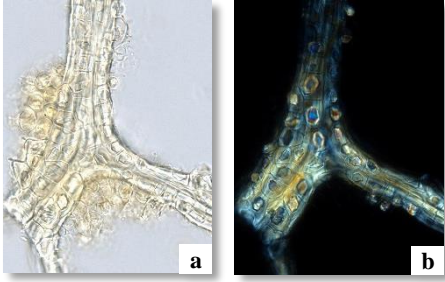


(Transverse section of the stem)

200 μm

Microscopic feature comparison of Herba Lysimachiae decoction pieces and Herba Desmodii Styraicifolii decoction pieces powder



	Herba Lysimachiae decoction pieces	Herba Desmodii Styraicifolii decoction pieces
Glandular hair	 <p>Yellowish-brown to reddish-brown, with rounded or elliptical unicellular head, stalk consists of 1 to 2 cells</p>	 <p>Mostly colourless, consists of several to dozens of cells, with slender head and large base</p>
Non-glandular hair	 <p>Absent or occasionally found, consists of several cells</p>	 <p>Numerous, mostly consists of 3 cells, with several short basal cells and one long apical cell. Two types can be found. One type is acerose, with acuminate apex, always with warty protuberances on the surface(1); another type with hooked apex and smooth surface(2)</p>
Crystal fibre	 <p>Absent</p>	 <p>Mostly in bundles, crystal fibre is formed as a result of fibres surrounded by parenchymatous cells which usually contain prisms of calcium oxalate; under the polarized light microscope, fibre appears bright white or polychromatic, while prism of calcium oxalate appears polychromatic</p>

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

50 µm

Summary

Major differences in the features between Herba Lysimachiae decoction pieces and Herba Desmodii Styracifolii decoction pieces:

		Herba Lysimachiae decoction pieces	Herba Desmodii Styracifolii decoction pieces
Macroscopic and micro-morphological features	Phyllotaxis	Opposite simple leaf	Alternate compound leaf
	Lower surface of the leaf	With small glandular dots	Densely covered with long villi
	Result of testing with water	Black or brown stripes become visible on the leaf under light	No stripes on the leaf under light
Microscopic features	Glandular hair	With unicellular head, and stalk consists of 1 to 2 cells	Consists of several to dozens of cells
	Non-glandular hair	Absent or occasionally found	Numerous
	Crystal fibre	Absent	Present

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



Herba lysimachiae - Hong Kong Chinese Materia Medica Standards (Volume 5)

Herba Desmodii Styracifolii - Hong Kong Chinese Materia Medica Standards (Volume 2)

Additional information

Photo of crude Herba Lysimachiae



Usually twisted into masses, glabrous or sparsely covered with pubescences
Stem is twisted and has brown or dark brownish-red surface and with longitudinal striations; stem node of the lower part with rootlets sometimes, solid fracture
Opposite leaf is mostly shrivelled and appears broad ovate or cordate when flattened. 1-4 cm long, 1-5 cm wide, with retuse base and entire margin; upper surface is greyish-green or brown and lower surface has relatively light colour, midrib is distinctly protruding; petiole is 1-4 cm long
After soaking in water, black or brown stripes become visible under light

- ◆ Some with solitary and axillary yellow flowers, with long petioles. Capsule spherical
- ◆ Slight odour and weak taste

Photo of crude Herba Desmodii Styracifolii



Cylindrical stem, up to 1 m long, densely covered with yellow and spreading short pubescences. Slightly fragile, with pith in the centre of the fracture

Petiole is 1-2 cm long; with 1 pair of lanceolate stipule, about 0.8 cm long

Alternate leaf has leaflets in 1 or 3, rounded or oblong, 2-4 cm in diameter; retuse at the apex, cordate or obtuse at the base, entire margin. Upper surface is yellowish-green or greyish-green and glabrous, while lower surface has adpressed greyish-white villi and pinnate lateral veins

- ◆ Slight aroma and slightly sweetish taste



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