Identification of Easily Confused Species of Chinese Materia Medica in Hong Kong by Macroscopic and Microscopic Characteristics Project

Herba Lycopi versus Herba Eupatorii





Source

*Herba Lycopi

Herba Eupatorii#

is the dried aerial part of Eupatorium fortunei Turcz. in the family Compositae

Overview

Herba Lycopi and Herba Eupatorii are both listed in Schedule 2 of the Chinese Medicine Ordinance and the Chinese Pharmacopoeia (2020). According to the research in the *Species Systematization and Quality Evaluation of Commonly Used Chinese Traditional Drugs*, consistent confusion exists between the source and name of these two Chinese Materia Medica (CMM) has been recorded in ancient literatures. According to the Chinese Pharmacopoeia, Herba Lycopi can activate blood to regulate menstruation; eliminate stasis and disperse abscesses; and drain water to disperse swelling. On the other hand, Herba Eupatorii can resolve dampness with aroma; enliven the spleen and increase the appetite; and effuse the exterior to release summerheat. Due to variations in properties, these two CMM should be used accordingly.

Note:

^{*}Its name in Chinese Pharmacopoeia (2020) is "Lycopi Herba".

[#]Its name in Chinese Pharmacopoeia (2020) is "Eupatorii Herba".

Key identification features

Macroscopic features of Herba Lycopi decoction pieces





Opposite leaf with blade mostly broken. Upper surface is dark green to yellowish-green, while lower surface is greyish-green. Leaf appears lanceolate or oblong with serrate margin when flattened

Verticillaster is sometimes observable

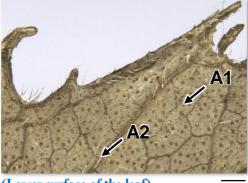
Square-cylindrical stem with shallow and longitudinal grooves on each of the 4 sides. Surface in yellowish-green, some are purplish. Node is significantly in purple and has white villi

Cut surface of stem is yellowishwhite and hollow

◆ Aromatic and slightly bitter taste

Micro-morphological features

A1: Densely distributed with glandular dots
A2: Short hair is frequently observable and usually denser at the vein



(Lower surface of the leaf)

 $\overline{1}$ mm

Macroscopic features of Herba Eupatorii decoction pieces





Leaf appears lanceolate or oblonglanceolate with serrate margin when flattened

Opposite leaf. Blade is mostly shriveled, broken and greenish-brown

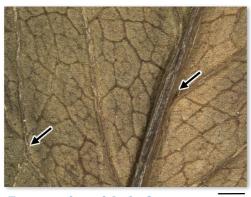
Cylindrical stem with significant nodes and longitudinal ridges. Surface in yellowish-brown or yellowish-green, some are purplish

Cut surface of stem has white or hollowed pith

◆ Slight odour and weak taste

Micro-morphological feature

A: Without glandular dots; short hair is barely observable



(Lower surface of the leaf)

1 mm

Microscopic feature comparison of Herba Lycopi decoction pieces 2 and Herba Eupatorii decoction pieces powder



	Herba Lycopi decoction pieces	Herba Eupatorii decoction pieces
Glandular scale	Head appears sub-rounded, 8 cells	Absent
Non-glandular hair	Numerous, mostly broken, with warty protuberances on the surface	Occasionally found, mostly broken
Lower epidermal cell	Sinuous anticlinal wall, diacytic stomata, occasionally anomocytic	Sinuous anticlinal wall, anomocytic stomata

Summary

Major differences in the features between Herba Lycopi decoction pieces and Herba Eupatorii decoction pieces:

		Herba Lycopi decoction pieces	Herba Eupatorii decoction pieces
Macroscopic and micro-morphological features	Shape of stem	Square-cylindrical	Cylindrical
	Lower surface of the leaf	Densely distributed with glandular dots	Without glandular dots
Microscopic features	Glandular scale	Present	Absent
	Non-glandular hair	Numerous	Occasionally found
	Lower epidermal cell	Diacytic stomata, occasionally anomocytic	Anomocytic stomata

For more information, please refer to the <u>Hong Kong Chinese Materia Medica</u> Standards website:



Lycopi Herba - Hong Kong Chinese Materia Medica Standards (Volume 6)

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

Additional information

Photo of crude Herba Lycopi



Opposite leaf with short petiole or nearly no petiole. Blade mostly shriveled and appears lanceolate or oblong when flattened, 5-10 cm long. Upper surface is blackish-green or dark green and lower surface is greyish-green, with densely distributed glandular dots. Both surfaces have short hairs. With pointed apex, attenuate base and serrate margin

Axillary verticillaster. Corolla mostly fallen off. With persistent bract and calyx. Lanceolate bracteole with hairs at margin. Campanulate calyx is 5-toothed

Square-cylindrical stem rarely branched and with shallow and longitudinal grooves on each of the four sides, 50-100 cm long, 0.2-0.6 cm in diameter. Surface in yellowish-green, some are purplish, with nodes significantly in purple and with white villi

Fragile, fracture in yellowish-white and with hollowed pith

◆ Slight odour and weak taste

Photo of crude Herba Eupatorii



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Opposite leaf with petiole. Greenish-brown blade mostly shriveled and broken. Intact blade is trifid or non-divided. Divided blade has a relatively large middle lobe which appears lanceolate or oblong-lanceolate when flattened. It also has a narrow base and serrate margin. Non-divided blade appears ovoid, ovate-lanceolate or elliptical when flattened

Cylindrical stem, 30-100 cm long, 0.2-0.5 cm in diameter. Surface in yellowish-brown or yellowishgreen, some are purplish. With significant nodes and longitudinal ridges

Fragile, fracture with white or hollowed pith

◆ Aromatic and slightly bitter taste

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