

Radix Pulsatillae versus Polycarpaeae Corymbosae Herba



Source

***Radix Pulsatillae**
is the dried root of
Pulsatilla chinensis (Bge.) Regel
in the family Ranunculaceae

Polycarpaeae Corymbosae Herba
is the dried whole part of
Polycarpaea corymbosa (L.) Lam.
in the family Caryophyllaceae

Overview

Radix Pulsatillae is listed in the Chinese Pharmacopoeia (2020) and Schedule 2 of the Chinese Medicine Ordinance while Polycarpaeae Corymbosae Herba is not listed in either references. According to *Modern Chinese Materia Medica*, there had been various descriptions for “Bai tou weng” across generations of Materia Medica literature, making the sources of the Chinese Materia Medica (CMM) complicated. While most of the regions in the country now use *Pulsatilla chinensis* from the family Ranunculaceae, it was pointed out in the *Guang dong zhong yao zhi* that *Polycarpaea corymbosa* from the family Caryophyllaceae was once used in Guangdong province, which was also named as “Guang bai tou weng”. According to Chinese Pharmacopoeia and the *Chinese Materia Medica Standards in Guangdong Province*, both CMM are heat-clearing and detoxicating, with Radix Pulsatillae having the additional property of cooling blood and checking dysentery whereas Polycarpaeae Corymbosae Herba can drain dampness and resolve accumulation. The two CMM should be used accordingly as their functions are not totally the same.

Note:

*Its name in the Chinese Pharmacopoeia (2020) is “Pulsatillae Radix”.

Key identification features

Macroscopic features of Radix Pulsatillae



- ◆ Sub-cylindrical or obconic, slightly twisted



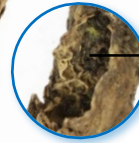
1 cm



5 mm

Usually with white long hairs and remnants of petiole

Yellowish-brown or brown surface with irregular longitudinal grooves
Bark is easily exfoliated with wood in lighter colour exposed



Usually with hole near the apex. Some wood is open and has reticulate fissures

Micro-morphological feature

A: With numerous straight long hairs



(Apex of the root)

2 mm

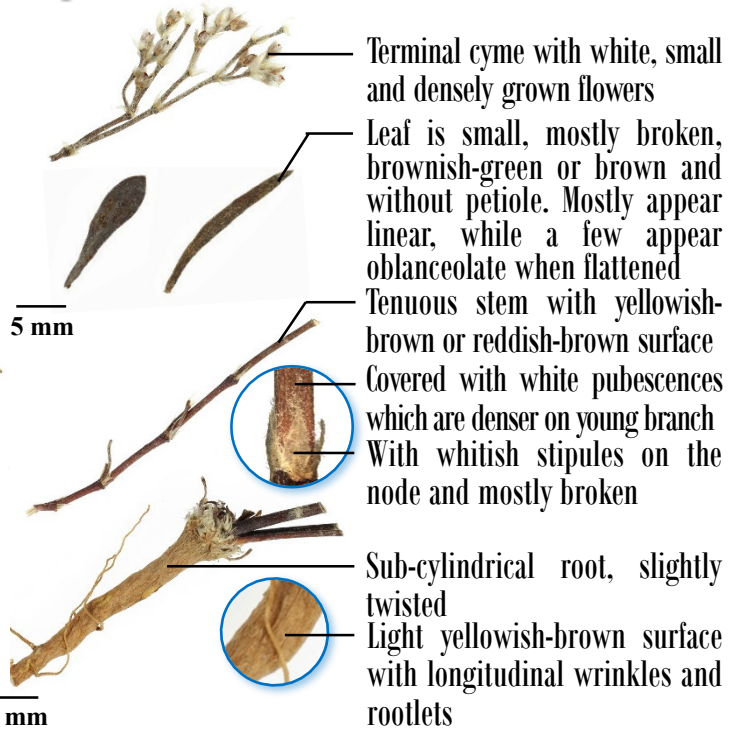
Macroscopic features of Polycarpaeae Corymbosae Herba



decoction pieces



1 cm



Micro-morphological features

A: With numerous whitish stipules(→), some with leaves(→) observable

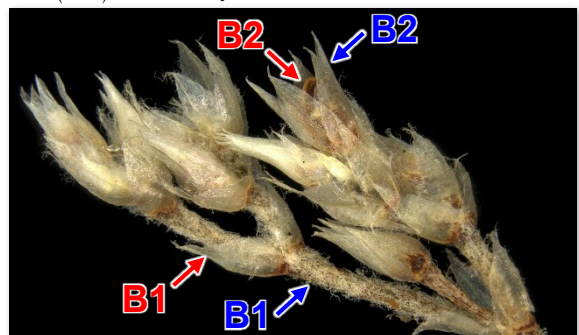


(Apex of the root)

2 mm

B1: Peduncle(→) is densely covered with white pubescences and bracteole(→) is translucent

B2: Sepal(→) is translucent and longer than petal (→) which is yellowish-brown or brown


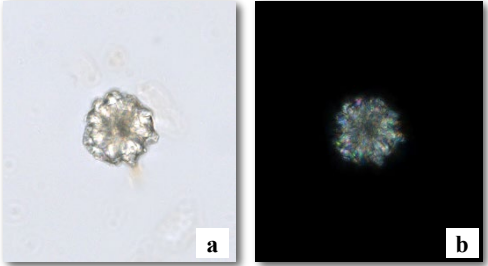

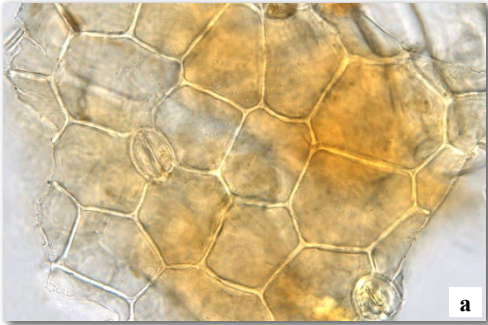




(Inflorescence)

2 mm

Microscopic feature comparison of Radix Pulsatillae and Polycarpaeae Corymbosae Herba decoction pieces powder



	Radix Pulsatillae	Polycarpaeae Corymbosae Herba decoction pieces
Cluster of calcium oxalate	 Absent	 <p>Scattered or present in parenchymatous cell; polychromatic under the polarized light microscope</p>
Epidermal cell of leaf	 Absent	 <p>Square, polygonal or rectangular in surface view, anomocytic stomata</p>
Non-glandular hair	 <p>Unicellular, slender, relatively straight, thick or slightly thick wall</p>	 <p>Multicellular, mostly shriveled and twisted, thin or slightly thick wall</p>

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

50 μm

Summary

Major differences in the features between Radix Pulsatillae and Polycarpaeae Corymbosae Herba decoction pieces :

		Radix Pulsatillae	Polycarpaeae Corymbosae Herba decoction pieces
Macroscopic and micro-morphological features	Surface of root	With longitudinal grooves and bark is easily exfoliated	With longitudinal wrinkles
	Inflorescence	Absent	Present
	Apex of root	With straight long hairs	With stipules
Microscopic features	Cluster of calcium oxalate	Absent	Present
	Epidermal cell of leaf	Absent	Present
	Non-glandular hair	Unicellular	Multicellular

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



Pulsatillae Radix - Hong Kong Chinese Materia Medica Standards (Volume 6)

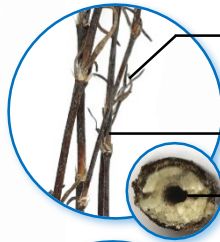
Additional information

Photo of crude Polycarpaeae Corymbosae Herba



◆ 15-40 cm long

Numerous small white flowers densely form a terminal cyme



Single leaf is opposite, without petiole and narrow linear, about 1 cm long, 1 mm wide. Leaf at the upper part is smaller

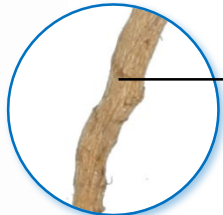
Tenuous branch is covered with white villi on the surface



Hard and fragile, easily broken, hollow fracture



Stem has blades and stipules densely grown near the base and dichotomous branching at the upper part



Single root is twisted and with light brownish-yellow surface

◆ Slight odour and weak taste

1 cm



Government Chinese Medicines Testing Institute
Department of Health

Enquiry Hotline: 3188 8079

Website: www.cmro.gov.hk

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