

Radix Arnebiae or Radix Lithospermi

versus

Herba Potentillae Chinensis



Source

* **Radix Arnebiae or Radix Lithospermi** is the dried root of *Arnebia euchroma* (Royle) Johnst., *Lithospermum erythrorhizon* Sieb. et Zucc. or *Arnebia guttata* Bunge[#] in the family Boraginaceae

Herba Potentillae Chinensis[^] is the dried whole part of *Potentilla chinensis* Ser. in the family Rosaceae

Overview

Radix Arnebiae or Radix Lithospermi and Herba Potentillae Chinensis are both listed in Schedule 2 of the Chinese Medicine Ordinance and Chinese Pharmacopoeia (2015 Edition). According to the current market survey, *Arnebia euchroma* is the main species of Radix Arnebiae or Radix Lithospermi in the market. According to the “*Species Systematization and Quality Evaluation of Commonly Used Chinese Traditional Drugs*”, in some areas of Guangdong and Guangxi, Herba Potentillae Chinensis is used as Radix Arnebiae or Radix Lithospermi, and is commonly known as the “Northern Zi cao”. According to the Chinese Pharmacopoeia, the function of Radix Arnebiae or Radix Lithospermi includes clearing heat and cooling blood; activating blood and detoxification; outthrusting rashes and resolving macule. On the other hand, Herba Potentillae Chinensis has the function of clearing heat and detoxification; and cooling blood and suppressing dysentery. Due to variation in function, they should be use accordingly.

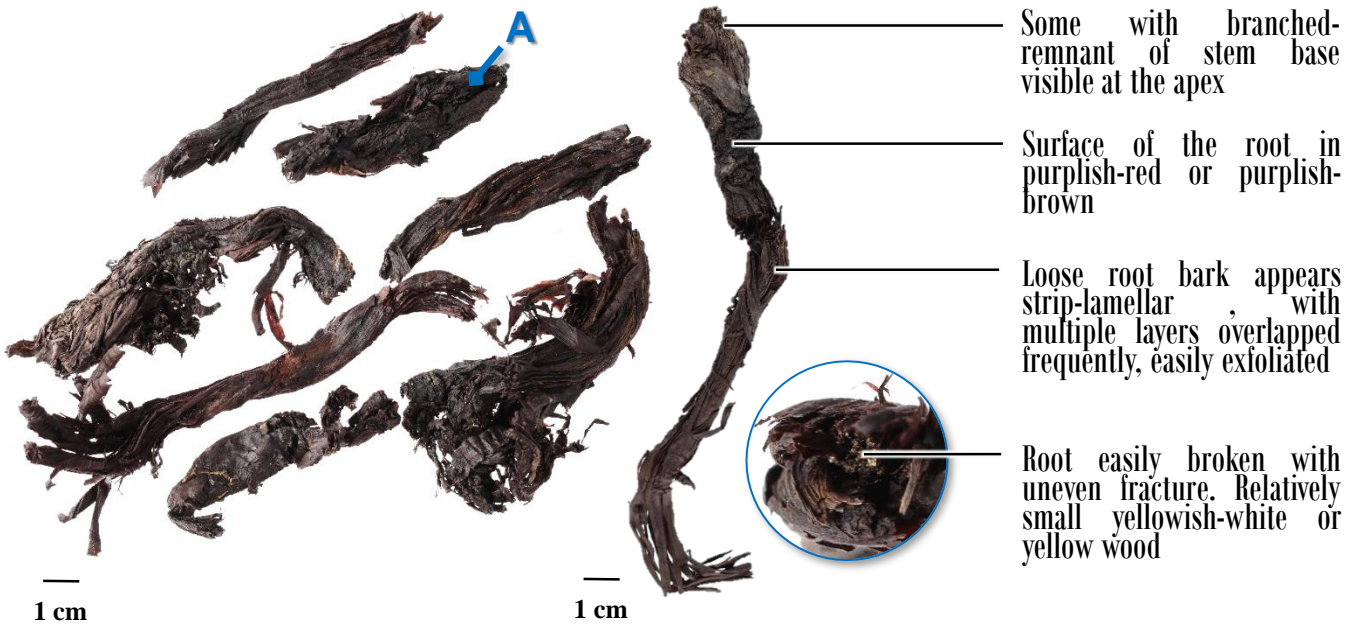
- Note:
- * Its name in the Chinese Pharmacopoeia (2015 Edition) is “Arnebiae Radix”.
 - [#] Only *Arnebia euchroma* is included in this study as currently it is the main species of Radix Arnebiae or Radix Lithospermi in the market.
 - [^] Its name in the Chinese Pharmacopoeia (2015 Edition) is “Potentillae Chinensis Herba”.

Key identification features

Macroscopic features of Radix Arnebiae or Radix Lithospermi



◆ Irregular-cylindrical, mostly twisted



Some with branched-remnant of stem base visible at the apex

Surface of the root in purplish-red or purplish-brown

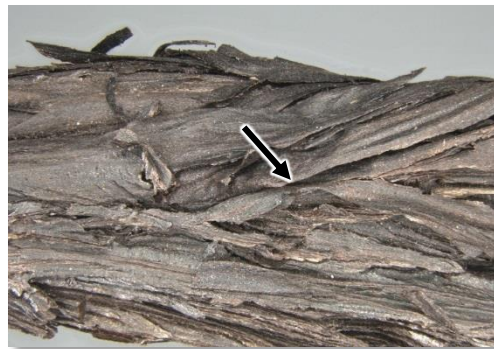
Loose root bark appears strip-lamellar, with multiple layers overlapped frequently, easily exfoliated

Root easily broken with uneven fracture. Relatively small yellowish-white or yellow wood

◆ Light, loose and soft root

Micro-morphological features

A: Loose bark appears striped-lamellar, with multiple layers overlapped frequently



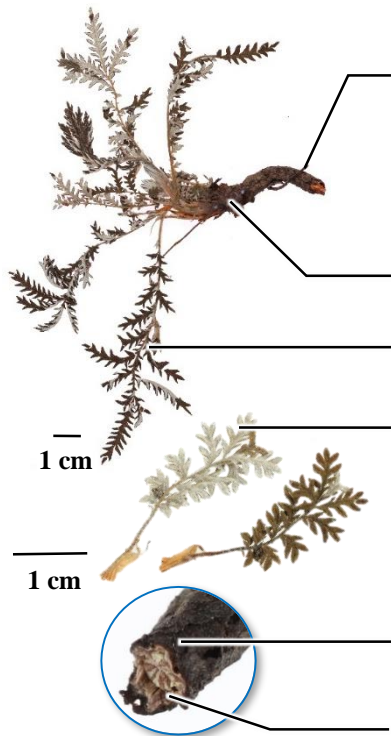
(Surface of the root)

2 mm

Macroscopic features of Herba Potentillae Chinensis



◆ Shriveled to masses



Slightly twisted cylindrical or sub-conic root, some with branches. Dark brown or dark purplish-red root surface with longitudinal striations and the rough bark easily exfoliated into fragments

Slightly swollen rhizome

Basal leaf. Odd-pinnate compound leaf with petiole

Long-elliptical leaflet with pinnatipartite margin. Greyish-white lower surface and petiole are densely covered with greyish-white villi

Root easily broken, with dark brown and thin bark in fracture

Bark frequently separated from wood and rays arranged radially

◆ Hard root

Micro-morphological features

A: Rough bark easily exfoliated into fragments


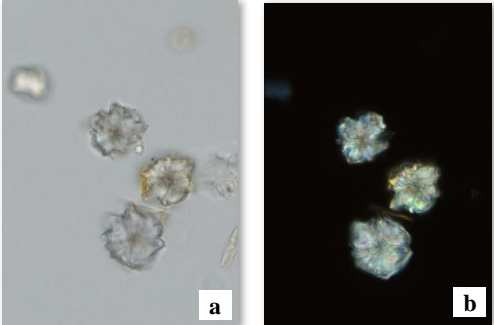



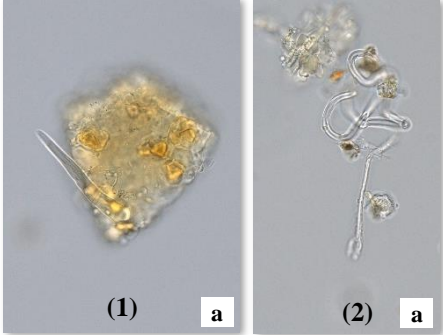


(Surface of the root)

1 mm

Microscopic feature comparison of Radix Arnebiae or Radix Lithospermi and Herba Potentillae Chinensis



	Radix Arnebiae or Radix Lithospermi	Herba Potentillae Chinensis
Cluster of calcium oxalate	 Absent	 <p>Present in mesophyll or parenchyma, or singly scattered; polychromatic under the polarized light microscope</p>
Lower epidermal cell of leaf	 Absent	 <p>Frequently covered by non-glandular hair. Anomocytic stomata (→) occasionally visible</p>
Non-glandular hair	 <p>Occasionally found, mostly broken, base enlarged to funnellform, wall with fine and longitudinal striations, some lumina contain purplish-red pigment</p>	 <p>Numerous, unicellular, straight (1) or slightly curved (2), some twisted into masses, slender, mostly broken</p>

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

50 μm

Summary

Major differences in the features between Radix Arnebiae or Radix Lithospermi and Herba Potentillae Chinensis:

		Radix Arnebiae or Radix Lithospermi	Herba Potentillae Chinensis
Macroscopic and micro-morphological features	Appearance	Twisted root	Whole plant shriveled to masses
	Root	Surface of bark is loose, frequently with multiple layers overlapped	Surface of rough bark easily exfoliated into fragments
Microscopic features	Cluster of calcium oxalate	Absent	Present
	Lower epidermal cell of leaf	Absent	Present
	Non-glandular hair	Fewer	More

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



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

Potentillae Chinensis Herba - Hong Kong Chinese Materia Medica Standards (Volume 8)



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