

Phragmitis Rhizoma versus Rhizoma Zizaniae Caduciflorae



Source

Phragmitis Rhizoma
is the dried rhizome of
Phragmites communis Trin.
in the family Gramineae

Rhizoma Zizaniae Caduciflorae
is the dried root and rhizome of
Zizania caduciflora (Turcz.) Hand. -Mazz.
in the family Gramineae

Overview

Both Phragmitis Rhizoma and Rhizoma Zizaniae Caduciflorae are not listed in Schedule of the Chinese Medicine Ordinance, but the former is listed in the Chinese Pharmacopoeia (2020). According to the *Zhong yao da ci dian*, “Wei jing” is the stem of *Phragmites communis*, and is believed to be the same as Phragmitis Rhizoma in most areas of China. In Guangdong, it is however customary to use the rhizome of *Zizania caduciflora* as “Wei jing”. In addition, since the usage of Rhizoma Zizaniae Caduciflorae is large in Guangdong and people often use Phragmitis Rhizoma as substitution, thus, this practice may have lead to confusion. According to the Chinese Pharmacopoeia, Phragmitis Rhizoma can clear heat and purge fire, engender fluid and relieve thirst, relieve agitation, stop vomiting and promote diuresis. On the other hand, according to *Zhong hua ben cao*, Rhizoma Zizaniae Caduciflorae can relieve agitation and relieve thirst, clear heat and detoxify. As the functions of the two Chinese Materia Medica are different, they should be used accordingly.

Key identification features

Macroscopic features of Phragmitis Rhizoma decoction pieces

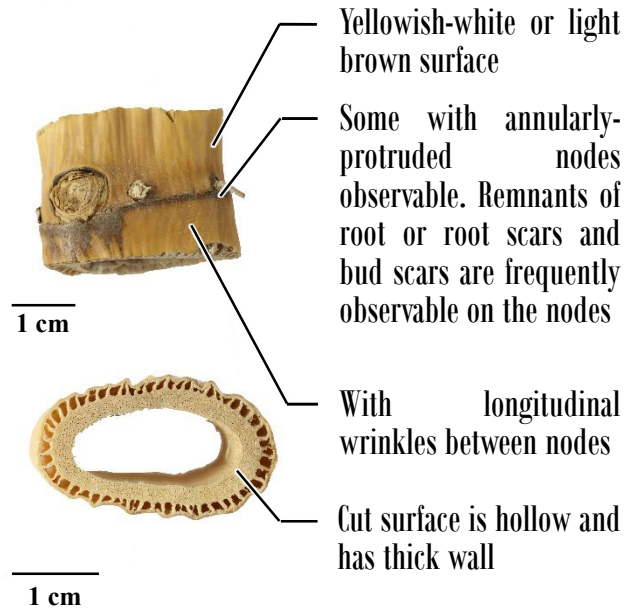


- ◆ Cylindrical or flattened cylindrical sections, relatively large



1 cm

- ◆ Hard and tough



Yellowish-white or light brown surface

Some with annularly-protruded nodes observable. Remnants of root or root scars and bud scars are frequently observable on the nodes

With longitudinal wrinkles between nodes

Cut surface is hollow and has thick wall

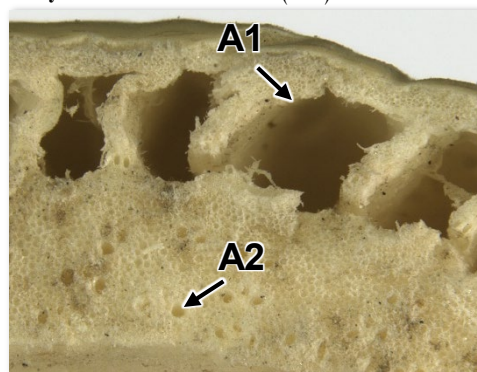
1 cm

1 cm

Micro-morphological features

A1: With 1 row of large and regularly arranged sub-square or irregular air spaces(→) observable near the outer side

A2: With irregularly scattered duct holes(→) observable near the inner side



(Cut surface)

1 mm

Macroscopic features of Rhizoma Zizaniae Caduciflorae

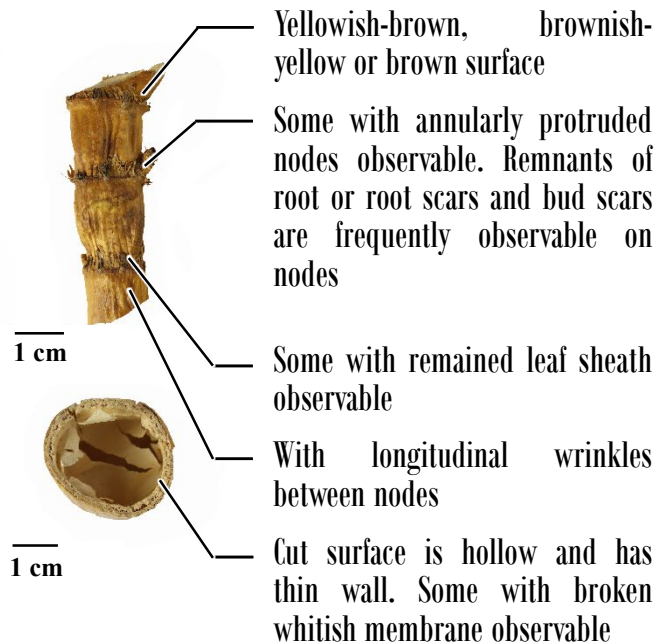


decoction pieces

- ◆ Cylindrical or flattened cylindrical sections, relatively small



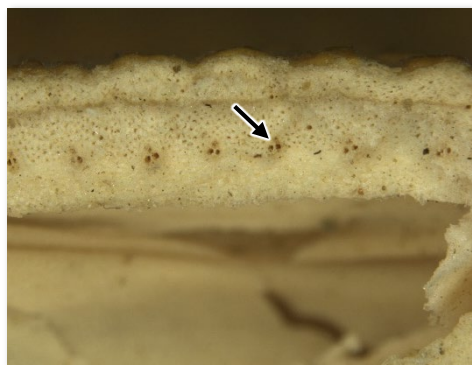
1 cm



- ◆ Soft and tough

Micro-morphological feature

A: Without large air spaces observable near the outer side, while several duct holes(→) are observed to be arranged in groups and arranged in interrupted ring near the inner side

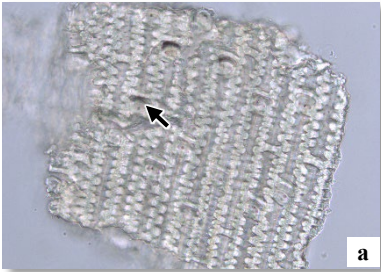
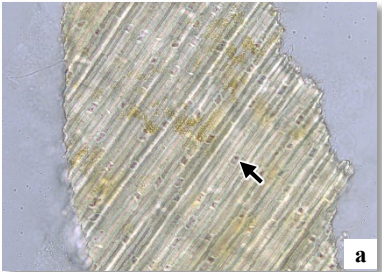


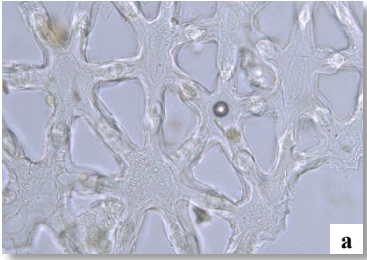


(Cut surface)

1 mm

Microscopic feature comparison of
Phragmitis Rhizoma decoction pieces and
Rhizoma Zizaniae Caduciflorae decoction pieces powder



	Phragmitis Rhizoma decoction pieces	Rhizoma Zizaniae Caduciflorae decoction pieces
Epidermal cell	 Long cell and short cells (suberified cell and silica cell) (→) arranged in alternative patterns from surface view; long cell strip-shaped, thick and sinuous wall; suberified cell crescentic, silica cell relatively small and flattened round	 Long cell and short cell (→) arranged in alternative patterns from surface view; long cell strip-shaped, thick and relatively straight wall; short cell square
Stone cell	 Mostly singly scattered, irregular, some with short branches; bright white under the polarized light microscope	 Absent
Stellate cell	 Absent	 Frequently found, mostly present in groups, loosely arranged, frequently with 5-7 branches interconnected to form triangular or sub-triangular intercellular space

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

50 μm

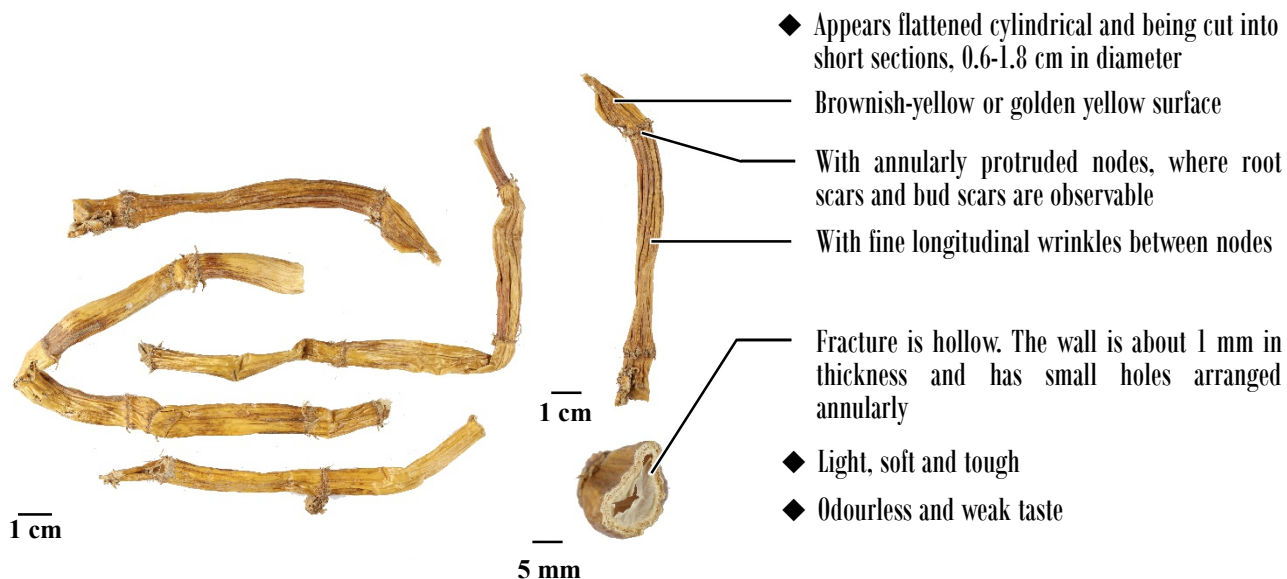
Summary

Major differences in the features between Phragmitis Rhizoma decoction pieces and Rhizoma Zizaniae Caduciflorae decoction pieces:

		Phragmitis Rhizoma decoction pieces	Rhizoma Zizaniae Caduciflorae decoction pieces
Macroscopic and micro-morphological features	Appearance	Relatively large, with yellowish-white or light brown surface	Relatively small, with yellowish-brown, brownish-yellow or brown surface
	Cut surface	With large air spaces	Without air spaces
	Texture	Hard	Soft
Microscopic features	Epidermal cell	Long cell with sinuous wall	Long cell with relatively straight wall
	Stone cell	Present	Absent
	Stellate cell	Absent	Present

Additional information

Photo of crude Rhizoma Zizaniae Caduciflorae



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