

## Outlines and interpretations of monographs

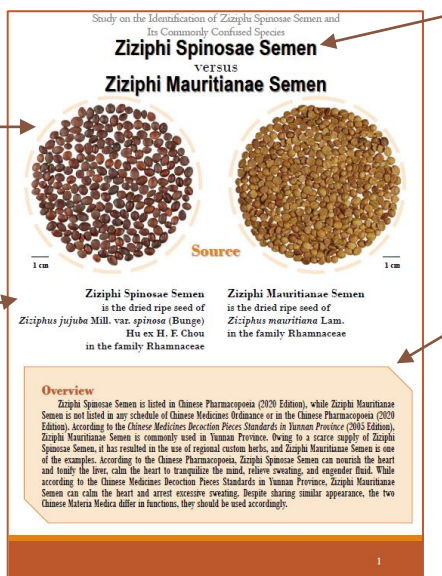
The research focuses on comparing between pairs of Chinese Materia Medica (CMM) through their macroscopic and microscopic features. The research results are organised into monographs, covering these five areas: name, source, overview, identification features and summary of the CMM.

### Comparison Photos of CMM

Positioned in the same proportion.

### Sources of CMM

This section includes the family names, scientific names and medicinal parts of the crude medicinal herbs/animals.



### Names of CMM

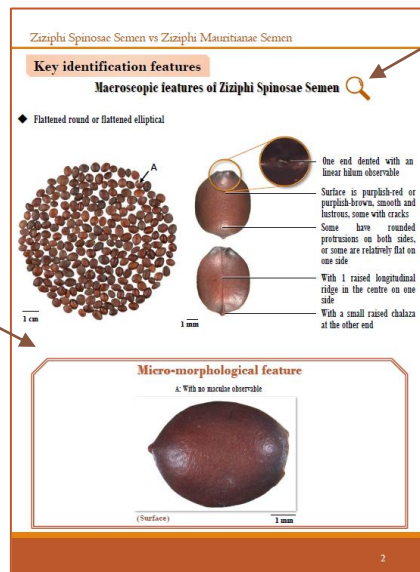
In principle, reference is made to Schedules 1 and 2 of the Chinese Medicine Ordinance (Cap. 549) and the Pharmacopoeia of the People's Republic of China (2020 Edition) (referred to as the Chinese Pharmacopoeia). For CMM not included in the above two, other statutory standards or reference materials, such as *Zhong hua ben cao* are used.

### Overview

This section lists out the collection status of the concerned CMM in statutory standards. It provides a general background on the causes of confusion.

### Key Features of Micro-morphological Identification

As an extension to macroscopic identification, scientific instruments are used to magnify features which are not easily noticeable to the naked eyes. Positions where micro-morphological features can be observed are enlarged and marked on the photos in macroscopic identification session with English letters. The directly observable features are indicated by arrows “↘”, while features to be observed post-incision are indicated by “↖”.



### Key Features of

### Macroscopic Identification

Macroscopic features of a CMM refer to its appearance and organoleptic characteristics, including the form, size, colour, texture, fracture, gross internal structures, odour/smell, taste and other relevant information. The features are listed in the form of photos and texts, whereas features without any significant distinguishing value are excluded.

For more information, please refer to Appendix II General Quality Control Method of the Hong Kong Chinese Materia Medica Standards (HKCMMS).

[https://www.cmro.gov.hk/html/eng/useful\\_information/hkcmms/volumes.html](https://www.cmro.gov.hk/html/eng/useful_information/hkcmms/volumes.html)

Ziziphi Spinosa Semen vs Semen Hoveniae

**Microscopic feature comparison of Ziziphi Spinosa Semen and Semen Hoveniae powder**

	Ziziphi Spinosa Semen	Semen Hoveniae
<b>Palisade cell of testa</b>	<p>Microscopic images showing palisade cells of testa for Ziziphi Spinosa Semen. Top row: (a) top view, (b) lateral view. Bottom row: (c) top view, (d) lateral view.</p>	<p>Microscopic images showing palisade cells of testa for Semen Hoveniae. Top row: (a) top view, (b) lateral view. Bottom row: (c) top view, (d) lateral view.</p>
<b>Cell of endopleura</b>	<p>Microscopic image showing cell of endopleura for Ziziphi Spinosa Semen.</p>	<p>Microscopic image showing cell of endopleura for Semen Hoveniae.</p>
<b>Crystal of calcium oxalate</b>	<p>Microscopic images showing crystal of calcium oxalate for Ziziphi Spinosa Semen. Top row: (a) top view, (b) lateral view. Bottom row: (c) top view, (d) lateral view.</p>	<p>Microscopic images showing crystal of calcium oxalate for Semen Hoveniae. Top row: (a) top view, (b) lateral view. Bottom row: (c) top view, (d) lateral view.</p>

## Key Features of Microscopic Identification

Microscopic features refer to the tissues, cells, ergastic substance, etc. that can be observed under microscope. Unless otherwise specified, powder which can pass through the Chinese national standard R40/3 series number 4 or number 5 sieve is used. For the purpose of distinguishing the two CMM, not more than three significant features are selected. Photos and simple text descriptions are listed in tabular format.

For details, please refer to Appendix III Microscopic Identification of the HKCMMS.

[https://www.cmro.gov.hk/html/eng/useful\\_information/hkcmms/volumes.html](https://www.cmro.gov.hk/html/eng/useful_information/hkcmms/volumes.html)

Ziziphi Spinosa Semen vs Semen Hoveniae

**Summary**

Major differences in the features between Ziziphi Spinosa Semen and Semen Hoveniae:

	Ziziphi Spinosa Semen	Semen Hoveniae
<b>Macroscopic and macro-morphological features</b>	<p><b>Surface</b>: Purplish-red or purplish-brown, some with cracks</p> <p><b>Texture</b>: Relatively fragile</p> <p><b>Transverse section</b>: Testa is thinner, cotyledon is thicker</p>	<p><b>Surface</b>: Dark brown or blackish-brown</p> <p><b>Texture</b>: Hard</p> <p><b>Transverse section</b>: Testa is thicker, cotyledon is thinner</p>
<b>Microscopic features</b>	<p><b>Palisade cell of testa</b>: Top view and bottom views are frequently found, lateral view is thinner</p> <p><b>Cell of endopleura</b>: Anticlinal wall beaded-thickened</p> <p><b>Crystal of calcium oxalate</b>: Prism barely found; fine crystal relatively smaller</p>	<p><b>Palisade cell of testa</b>: Top view and bottom views are hardly found, lateral view is thicker</p> <p><b>Cell of endopleura</b>: Anticlinal wall thick and smooth</p> <p><b>Crystal of calcium oxalate</b>: Prism observable; fine crystal relatively larger</p>

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

Hoveniae Semen - Hong Kong Chinese Materia Medica Standards (Volume 9)

## Summary

Not more than three most obvious and key features are selected each for the macroscopic and microscopic sections. The findings are summarised in tabular form for comparison.

For CMM which are included in the HKCMMS, their volume number will be included for reference.

## Specification

### Sieve

The sieves adopted in the monographs are as follows:

Sieve Number	Average internal diameter of aperture (µm)	Aperture Number
4	250 ± 9.9	65
5	180 ± 7.6	80

*Sieve sizes of the Chinese national standard R40/3 series*

### Measures

The metric system is employed in the monographs. The involved units are as follows:

Quantity	Unit	
	Name	Symbol
Length	meter	m
	centimeter	cm
	millimeter	mm
	micrometer	µm

*International System of Units*



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