

Outlines and interpretations of monographs

The current research will focus on comparing between pairs of Chinese Materia Medica (CMM) decoction pieces through their macroscopic and microscopic features. The research results will be organised into monographs, covering these six areas: name, source, overview, identification features, summary and additional information of the CMM. The resulted monographs will then be published by phases.

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. For CMM deriving from minerals, the class, group, name of the ore or rock and their main components will be listed. The decoction pieces selected in this collection are the major ones available in the Hong Kong market.

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 (2015 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.

The current research focuses on commercially-available decoction pieces and specifications of selected decoction pieces which are commonly found in the Hong Kong market.

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 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




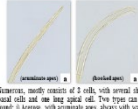

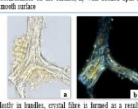
Macroscopic features of a CMM refer to its appearance and organoleptic characteristics, including the form, size, colour, texture, fracture, gross internal structures, odour/smell, taste and other relevant information. The comparative macroscopic and micro-morphological features are listed in the form of photos and texts, whereas features without any significant distinguishing value are excluded. For decoction pieces of multiple sources, a single general description is provided if no significant differences are observed; otherwise, there will be a primary description on one source, followed by its differences among other sources.

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

Herba Lysimachiae vs Herba Desmodii Stryacifolii

Microscopic feature comparison of Herba Lysimachiae and Herba Desmodii Stryacifolii decoction pieces powder

	Herba Lysimachiae decoction pieces	Herba Desmodii Stryacifolii decoction pieces
Glandular hair	 Tubelike, brown to reddish-brown, with rounded or elliptical head-like base, each consists of 1 to 2 cells.	 Beady tubelike, consists of several to dozens of cells, with distinct head and long base.
Non-glandular hair	 Absent or occasionally found, consists of several cells.	 Numerous, usually consists of 2 cells, with several distinct head cells and one long apical cell. Two types can be found: 1) beak-like, with acuminate apex, apex with weak protruberance on the surface; 2) with hooked apex and smooth surface.
Crystal fibre	 Absent.	 Mostly in bundles, crystal fibre is formed as a result of fibres surrounded by pectocellulose with which usually contain protein of calcium oxalate; under the polarized light microscope, fibre appears bright white or polychromatic, while protein of calcium oxalate appears polychromatic.

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

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

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.



Herba Lysimachiae vs Herba Desmodii Stryacifolii

Summary

Major differences in the features between Herba Lysimachiae and Herba Desmodii Stryacifolii decoction pieces:

	Herba Lysimachiae decoction pieces	Herba Desmodii Stryacifolii decoction pieces	
Macroscopic and macro-morphological features	Phyllotaxis	Opposite simple leaf	Alternate compound leaf
	Lower surface of the leaf	With small glandular dots	Densely covered with long villi
	Result of water test	Black or brown stripes become visible on the leaf under light	No stripes on the leaf under light
Microscopic features	Glandular hair	With unicellular head, and stalk consists of 1 to 2 cells	Consists of several to dozens of cells
	Non-glandular hair	Absent or occasionally found	Numerous
	Crystal fibre	Absent	Present

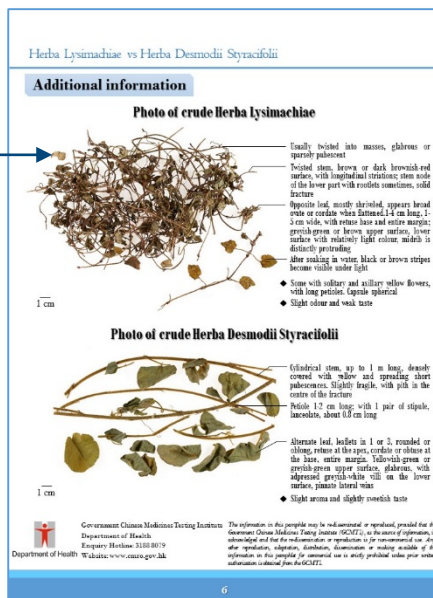
For more information, please refer to the Hong Kong Chinese Materia Medica Standards website:

 Herba Lysimachiae - Hong Kong Chinese Materia Medica Standards (Volume 5)
 Herba Desmodii Stryacifolii - Hong Kong Chinese Materia Medica Standards (Volume 2)

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

Additional Information

If the macroscopic feature of a crude CMM differs from that of its decoction pieces, there will be a photo of the crude CMM along with a description of its macroscopic features in reference to the Chinese Pharmacopoeia, “Zhong hua ben cao” or other reference materials. This section will be omitted if no variations exist.



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	centimeter	cm
	millimeter	mm
	micrometer	µm

International System of Units



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