

Fructus Amomi Rotundus versus Semen Alpiniae Katsumadai



Source

***Fructus Amomi Rotundus**
is the dried ripe fruit of
Amomum kravanh Pirre ex Gagnep. or
A. compactum Soland ex Maton[^]
in the family Zingiberaceae

Semen Alpiniae Katsumadai[#]
is the dried almost ripe seed of
Alpinia katsumadai Hayata
in the family Zingiberaceae

Overview

Fructus Amomi Rotundus and Semen Alpiniae Katsumadai are both documented in Schedule 2 of the Chinese Medicine Ordinance and the Chinese Pharmacopoeia (2020). According to the *Species Systematization and Quality Evaluation of Commonly Used Chinese Traditional Drugs*, “Dou kou” and “Cao dou kou” were first documented in *Ming yi bie lu*, with “Cao dou kou” listed as other names of “Dou kou”. The two Chinese Materia Medica (CMM) were only documented separately since the literature *Kai bao ben cao*. Nevertheless, many subsequent Materia Medica literatures mixed up the graphic and textual description of the two CMM. According to the Chinese Pharmacopoeia, both CMM have the functions of moving qi and warming the middle to check vomiting. However, Semen Alpiniae Katsumadai dries dampness while Fructus Amomi Rotundus resolves dampness as well as increases appetite and promotes digestion. Moreover, the two CMM belong to different genera of the same family, therefore distinction should be made between them.

Note:

*Its name in Chinese Pharmacopoeia (2020) is “Amomi Fructus Rotundus”.

[#]Its name in Chinese Pharmacopoeia (2020) is “Alpiniae Katsumadai Semen”.

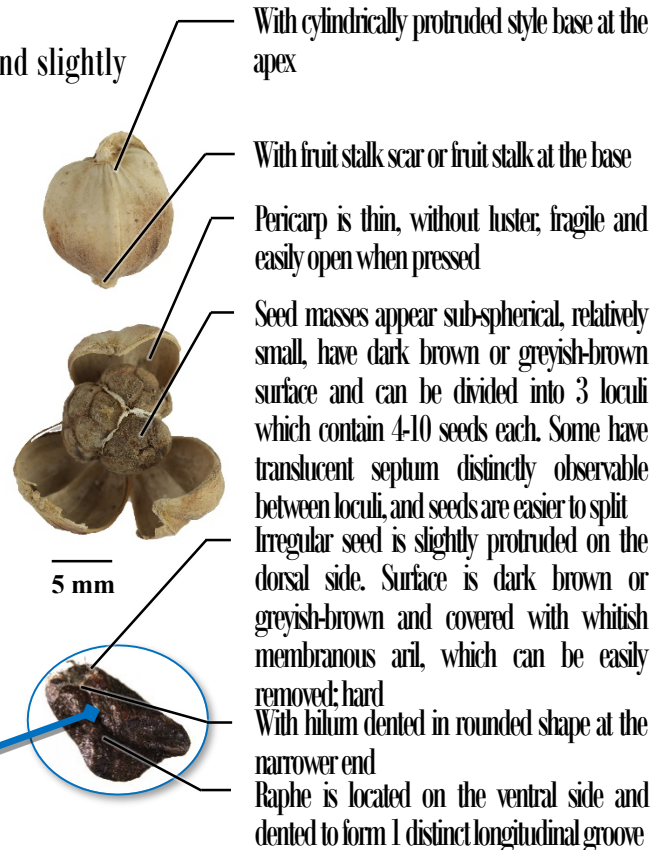
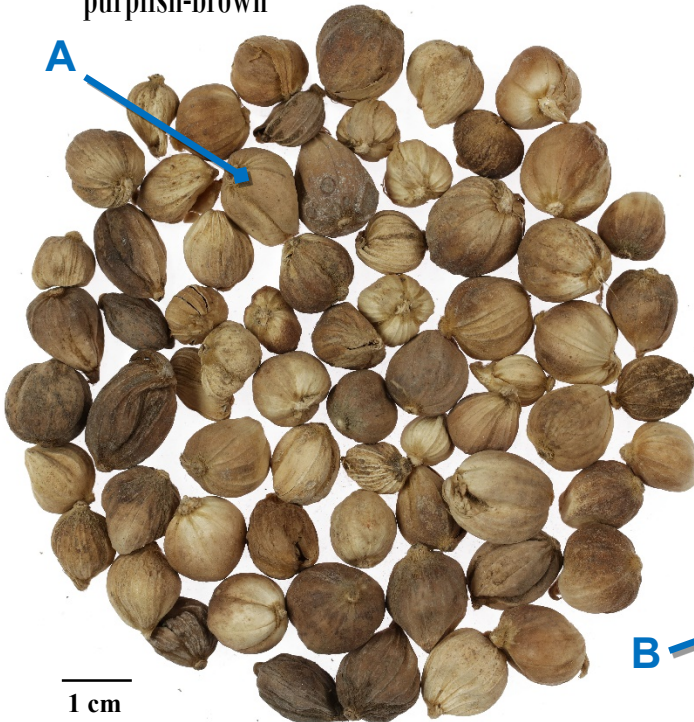
[^]Only *Amomum compactum* is included in this study as currently it is the main species of Fructus Amomi Rotundus in the market.

Key identification features

Macroscopic features of Fructus Amomi Rotundus

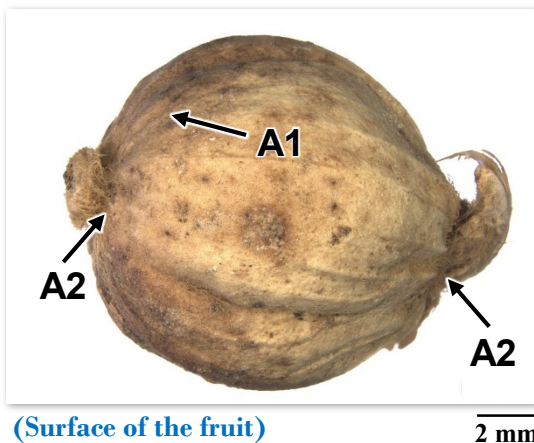


- ◆ Sub-spherical, with 3 obtuse ridges
- ◆ Surface is yellowish-white or light yellowish-brown and slightly purplish-brown



Micro-morphological features

- A1: With numerous distinct longitudinal striations
 A2: With yellowish-brown villi on both ends of the fruit



- B: After longitudinally dissecting the seed along the raphe, a relatively long cordate and greyish-white endosperm which occupies most of the area is observable



Macroscopic features of Semen Alpiniae Katsumadai

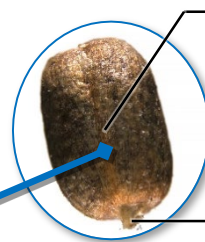


◆ Sub-spherical



Seed masses is relatively large, have greyish-brown and slightly smooth surface and can be divided into 3 loculi which contain numerous seeds agglutinated closely to each other. With yellowish-white or light yellow septum distinctly observable between loculi, and seeds are harder to split

5 mm



Ovoid seed has greyish-brown surface and covered with light brown membranous aril, which cannot be easily removed. Raphe is a longitudinal groove; hard

With hilum on one end

1 cm

Micro-morphological feature

A: After longitudinally dissecting the seed along the raphe, a relatively short cordate greyish-white endosperm which occupies about half of the area is observable

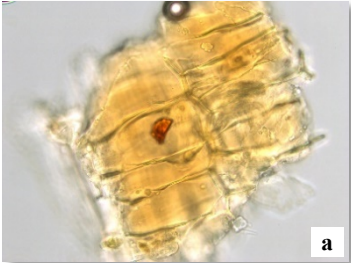
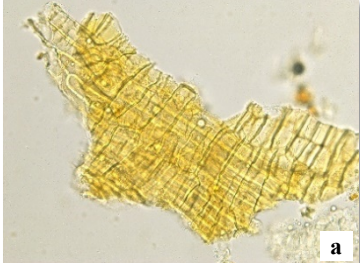
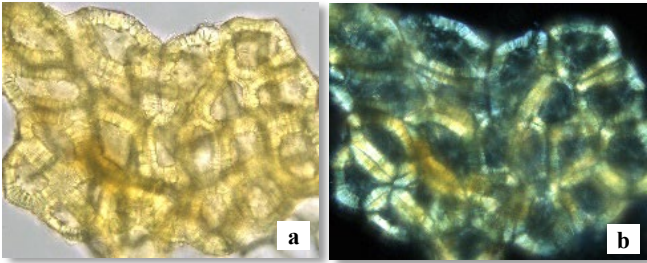





(Longitudinal section of the seed)

1 mm

Microscopic feature comparison of Fructus Amomi Rotundus and Semen Alpiniae Katsumadai powder



	Fructus Amomi Rotundus	Semen Alpiniae Katsumadai
Hypodermal cell	 <p>Light yellow, yellow or brownish-red, long strip-shaped, oblong or irregular in surface view, containing orange or brownish-red pigment, usually vertically arranged in layer with epidermal cell of the testa</p>	 <p>Colourless or light yellow, polygonal or sub-rectangular in surface view, usually vertically arranged in layer with epidermal cell of the testa</p>
Stone cell	 <p>Diverse shape, mostly present in groups, with distinct pits, relatively large lumen; polychromatic under the polarized light microscope</p>	 <p>Absent</p>
Non-glandular hair	 <p>Frequently found, mostly broken, distinct lumen</p>	 <p>Absent</p>

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

50 μm

Summary

Major differences in the features between Fructus Amomi Rotundus and Semen Alpiniae Katsumadai:

		Fructus Amomi Rotundus	Semen Alpiniae Katsumadai
Macroscopic and micro-morphological features	Appearance	Yellowish-white or light yellowish-brown fruit, slightly purplish-brown	Greyish-brown seed masses
	Seed masses	Smaller, seeds are easier to split	Larger, seeds are agglutinated and harder to split
	Longitudinal section of the seed	Endosperm occupies most of the area of the cut surface	Endosperm occupies about half of the area of the cut surface
Microscopic features	Hypodermal cell	With orange or brownish-red pigment	Without orange or brownish-red pigment
	Stone cell	Present	Absent
	Non-glandular hair	Present	Absent

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



Amomi Fructus Rotundus - Hong Kong Chinese Materia Medica Standards (Volume 8)
Alpiniae Katsumadai Semen - Hong Kong Chinese Materia Medica Standards (Volume 6)



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