

Periostracum Cicadae versus Periostracum Cicadae Flammatae



Source

#Periostracum Cicadae

is the slough of
Cryptotympana pustulata Fabricius
dropped off the nymph during emergence
in the family Cicadidae

Periostracum Cicadae Flammatae

is the slough of
Cicada flammata Dist.
(*Tibicen flammatus* (Dist.))
dropped off the nymph during emergence
in the family Cicadidae

Overview

Periostracum Cicadae, the nymph dropped off by the slough of *Cryptotympana pustulata* during emergence, is listed in Schedule 2 of the Chinese Medicine Ordinance and the Chinese Pharmacopoeia (2020). On the other hand, Periostracum Cicadae Flammatae (also called “*Jin chan yi*” in the *Modern Chinese Materia Medica*), the nymph dropped off by the slough of *Cicada flammata* (*Tibicen flammatus*) during emergence, had not yet been recorded in either references. According to the *Modern Chinese Materia Medica* and *Guang dong zhong yao zhi*, Periostracum Cicadae is available country wide and it may be sold across the country or locally; while Periostracum Cicadae Flammatae is mainly produced in the Zhejiang and Guangdong province for regional use. Due to different origin of the two Chinese Materia Medica, they should be used accordingly.

Note:

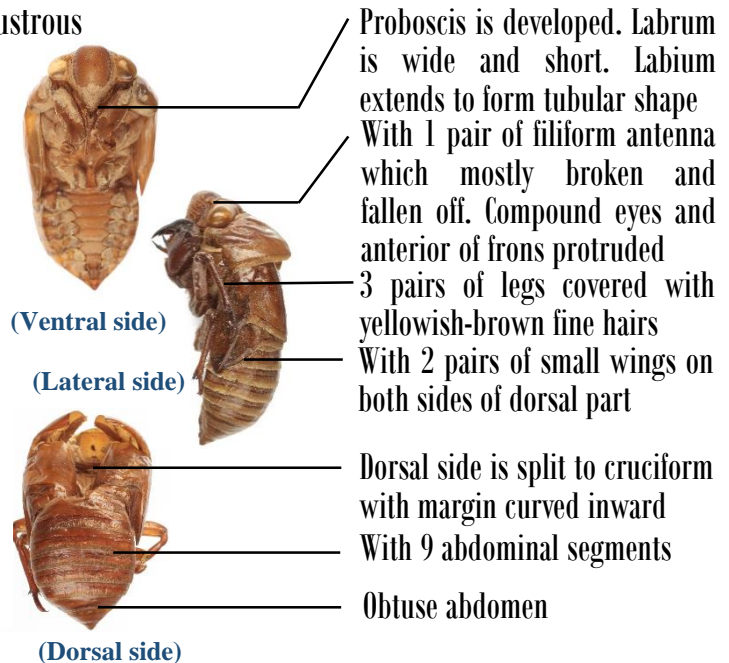
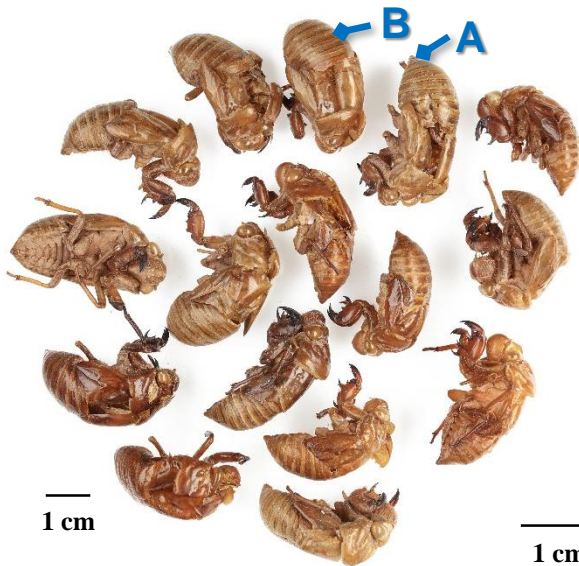
#Its name in the Chinese Pharmacopoeia (2020) is “Cicadae Periostracum”.

Key identification features

Macroscopic features of Periostracum Cicadae



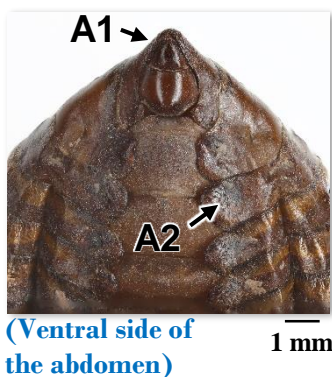
- ◆ Slightly elliptical and curved
- ◆ Yellowish-brown to brown, translucent and lustrous



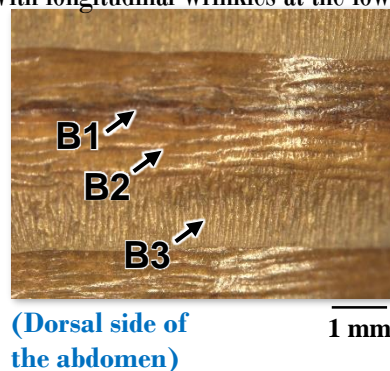
- ◆ Light, hollowed and fragile
- ◆ Slight odour and weak taste

Micro-morphological features

- A1: Obtuse triangular caudal end
- A2: Spiracle is blocked by the end of tergite(→)



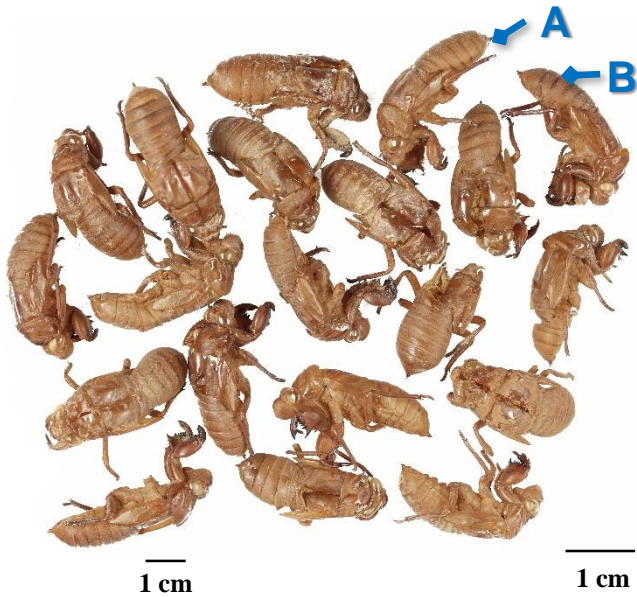
- B1: With horizontal wrinkles at the upper part of every segment
- B2: With brown horizontal striations in the centre
- B3: With longitudinal wrinkles at the lower part



Macroscopic features of Periostracum Cicadae Flammatae



- ◆ Slightly elliptical, relatively thin and straight
- ◆ Light yellowish-brown, translucent and lustrous



(Ventral side)

(Lateral side)



(Dorsal side)

Proboscis is developed. Labrum is wide and short. Labium extends to form tubular shape With 1 pair of filiform antenna which mostly broken and fallen off. Compound eyes and anterior of frons protruded

With 2 pairs of small wings on both sides of dorsal part
3 pairs of legs covered with yellowish-brown fine hairs

Dorsal side is split to cruciform with margin curved inward

Upper part of abdomen is relatively narrow and lower part is obtuse

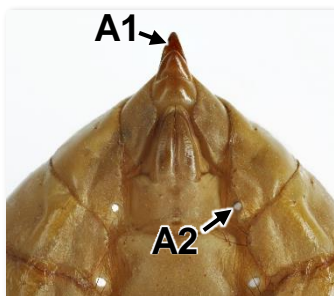
With 9 abdominal segments

- ◆ Light, hollowed and fragile
- ◆ Slight odour and weak taste

Micro-morphological features

A1: Caudal end with spine-like protuberance

A2: With white rounded spiracle on the sternite

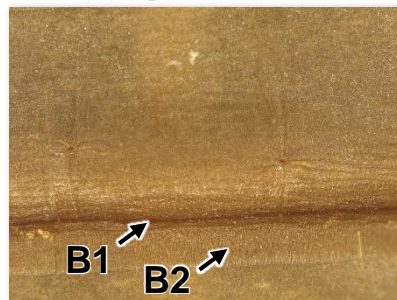


(Ventral side of the abdomen)

1 mm

B1: With brown horizontal striations at the lower part of every segment

B2: With fine and dense longitudinal wrinkles at the lower part of horizontal striations

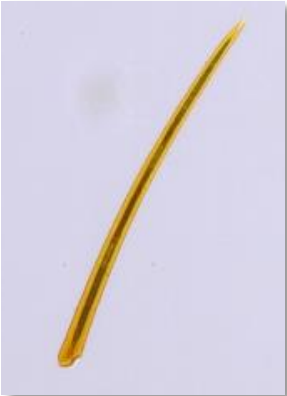




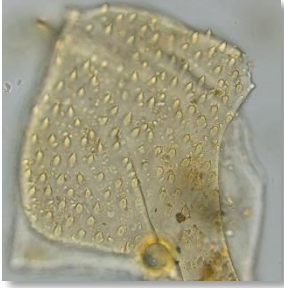


(Dorsal side of the abdomen)

1 mm

Microscopic feature comparison of
Periostracum Cicadae and Periostracum Cicadae Flammatae powder*



	Periostracum Cicadae	Periostracum Cicadae Flammatae
Stubby seta	<div></div> <p>Frequently found, varies in length, mostly broken. Dark yellowish-brown or reddish-brown, unicellular, with stalk, lumen contains dark brown substance</p>	<div></div> <p>Frequently found, varies in length, mostly broken. Yellow or yellowish-brown, unicellular, with stalk, lumen contains yellow or dark brown substance</p>
Fragment of integument	<div></div> <p>Frequently found, irregular, light yellow, yellow or yellowish-brown, surface densely distributed with papillary protuberances</p>	<div></div> <p>Frequently found, irregular, light yellow or yellow, surface densely distributed with papillary protuberances</p>

Note:

*Features of Periostracum Cicadae and Periostracum Cicadae Flammatae powders are very similar, which only differ in colour.

50 μm

Summary

Major differences in the features between Periostracum Cicadae and Periostracum Cicadae Flammatae:

		Periostracum Cicadae	Periostracum Cicadae Flammatae
Macroscopic and micro-morphological features	Abdomen	Obtuse	Relatively narrow upper part and obtuse lower part
	Ventral side	Obtuse triangular caudal end	Caudal end with spine-like protuberance
		Spiracle is blocked by the end of tergite	With white rounded spiracle on the sternite
Microscopic features	Stubby seta	Dark yellowish-brown or reddish-brown, lumen contains dark brown substance	Yellow or yellowish-brown, lumen contains yellow or dark brown substance
	Fragment of integument	Light yellow, yellow or yellowish-brown	Light yellow or yellow



Government Chinese Medicines Testing Institute
Department of Health
Enquiry Hotline: 3188 8079
Website: www.cmro.gov.hk

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