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Diploma in Pharmacy 1st Year
Pharmacognosy
Experiment
To perform the morphological study of Cinchona.

Aim:
To perform the morphological study of Cinchona.

Reference :
Dr. Gupta G.D , Dr. Sharma Shailesh , Kaur Navjit , "Practical Manual of Pharmacognosy" Published by Nirali Prakashan , Pg.No 55 - 58

Synonyms
Cortex Cinchonae, Countess, Peruvian or Jesuit's bark, Cinchona.

Biological Source :
Cinchona is cultivated by the dried bark or root of cinchona species like Cinchona calisaya wedding., C. Ledgeriana Moens, Cofficinalis Lim belonging to family Rubiaceae.

Morphological Characters
This form of evaluation involves a series of tests using the sense organs. It refers to evaluation of

1) **Colour :** Its outer surface is yellowish to green in colour, with a short rupture in the colour. Its inner surface varies depending on the species. Its inner surface has a variety of colours such as yellow, brown, and deep reddish brown.
2) **Size :** Length of the leave is 10 to 40 cm.
3) **Taste :** The taste of cinchona bark is highly bitter and astringent.
4) **Odour :** Its odour is distinctive.

5) **Stem-Bark :** Commercial 'druggist' quills can be up to 30cm long and 2- 6mm thick. Small curved chunks of bark are widely used in manufacturing Moss or lichen can often be seen on the exterior surface. The cork may or may not be wrinkled longitudinally, and it commonly has longitudinal and transverse cracks, which vary in frequency and severity between numerous varieties.
The colour of the inner surface varies from yellowish-brown to deep reddish- brown and is striated. The fracture is short in the exterior part, but fibrous inside. The odour is mild, while the taste is bitter and astringent

6) **Root-Bark :** Root-bark is found in channelled, frequently twisted portions ranging in length from 2 to 7 cm. Both surfaces are the same colour, with the outer being slightly scaly and the inner being striated. Due to the large number of hybrids that are developed, distinction between many commercial cinchona barks can be challenging. To make comparisons easier, the statements on four major species in Table I have been given briefly.

Table 1: Comparison of Cinchona Species

C. succirubra	*C. calisaya*	*C. ledgeriana*	*C. officinalis*
Frequently 20-40mm diameter, and 2-6mm thick	Diameter 12-25mm and 2-5mm thick	Similar to C. calisaya	Up to 12mm diameter, and 1mm thick.
Well-marked longitudinal wrinkles, relatively few transverse cracks. Some pieces, but by no means all, show reddish warts	Broad longitudinal fissures; transverse crack about 6-12mm apart	Similar to C. calisaya, but cracks are more numerous and less deep. Some pieces show longitudinal wrinkles and reddish warts	Transverse cracks, very numerous, often less than 6mm apart.
Powder reddish-brown	Powder cinnamon-brown	Powder cinnamon-brown	Powder yellowish.

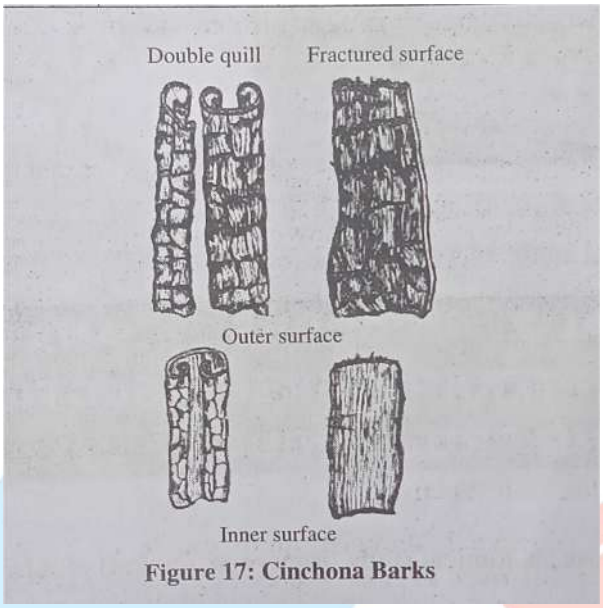

Figure 17: Cinchona Barks

Result :

The morphological study of Cinchona was performed.

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