

Cola nitida (Vent.) A. Chev.**Cola Nut (Kola Nut)****Semen Colae****Sterculiaceae**

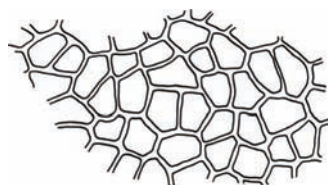
Cola nut is a common herbal source of caffeine and is used in herbal stimulant products. Cola nut should be sold without the outer testa.

Surface view: Outer epidermal cells are brown, polygonal, thick walled.

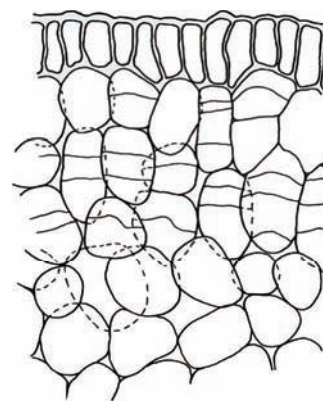
Transverse section: Brown outer epidermal cells, with thick walls, radially elongated; colorless subepidermal layers, thin-walled, elliptical cells often show evidence of secondary cell divisions; few and inconspicuous vascular bundles; isodiametric inner epidermal cells (where the two cotyledons meet); parenchyma of the cotyledons is brown and, in the outer part has thin walls and, in the inner part, slightly thickened and pitted walls; parenchyma cells are frequently filled with dark brown masses in which starch granules are partly embedded.

Starch: Abundant; granules are usually solitary, spheroidal to ovoid, up to 30 μm in length, with a slightly eccentric dot- or slit-shaped hilum.

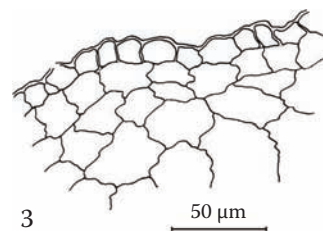
Powder: Brown parenchyma, some cells with thin walls, others with slightly thickened and pitted walls; fragments of the epidermis; few fragments of vessels; brown masses and starch, both free and as inclusions.



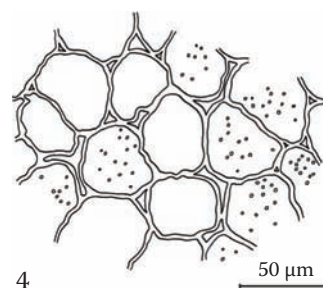
1



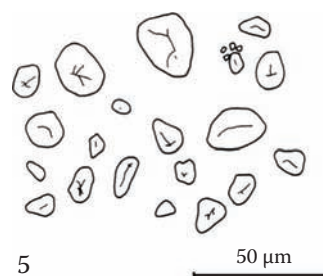
2



3



4



5

Drawings

1. Outer epidermis (*sv*).
2. Outer layers of the cotyledons, with radially elongated epidermal cells (top) and underlying cells showing evidence of secondary divisions (*ts*).
3. Inner epidermis, where the two cotyledons meet (*ts*).
4. Pitted parenchyma (*ts*).
5. Starch granules.