

# Cascara

## Species (Family)

*Rhamnus purshiana* DC. (*Frangula purshiana* (DC).  
A. Gray ex J.C. Cooper) (Rhamnaceae)

## Synonym(s)

Cascara Sagrada, Rhamni Purshianae Cortex,  
Rhamnus

## Part(s) Used

Bark

## Pharmacopoeial and Other Monographs

BHP 1996<sup>(G9)</sup>

BP 2001<sup>(G15)</sup>

Complete German Commission E<sup>(G3)</sup>

ESCOP 1997<sup>(G52)</sup>

Martindale 32nd edition<sup>(G43)</sup>

PDR for Herbal Medicines 2nd edition<sup>(G36)</sup>

Ph Eur 2002<sup>(G28)</sup>

USP24/NF19<sup>(G61)</sup>

## Legal Category (Licensed Products)

GSL<sup>(G37)</sup>

## Constituents<sup>(G2,G6,G41,G48,G52,G59,G62,G64)</sup>

**Anthracene glycosides** Pharmacopoeial standard, not less than 8% hydroxyanthracene glycosides.<sup>(G15,G28)</sup> Cascarosides A and B are anthrone C- and O-glycosides being 8-O-β-D-glucosides of 10-S-deoxyglucosyl aloë-emodin anthrone (aloin A) and of 10-R-deoxyglucosyl aloë-emodin anthrone (aloin B), respectively. Cascarosides C and D are the 8-O-β-D-glucosides of 10-(R)-(S)-deoxyglucosyl chrysophanol anthrone (chrysaloin A and B, respectively). Cascarosides E and F are the 8-O-β-D-glucosides of 10-deoxyglucosyl emodin-9-anthrone. The cascariosides comprise 60–70% of the total hydroxyanthracene complex. Aloins A and B, chrysaloins A and B account for 10–30% of the total hydroxyanthracene complex. The remaining 10–20% is a mixture of hydroxyanthracene O-glycosides including monoglucosides of aloë-emodin, chrysophanol, emodin and physcion.

**Other constituents** Linoleic acid, myristic acid, syringic acid, lipids, resin and tannin.

## Food Use

Cascara is listed by the Council of Europe as a natural source of food flavouring (category N4). This category indicates that while the use of cascara for flavouring purposes is recognised, it cannot be classified into the categories N1, N2 or N3 because of insufficient information.<sup>(G16)</sup> In the USA, cascara has been approved for food use.<sup>(G41)</sup>

## Herbal Use<sup>(G2,G4,G6,G8,G43,G52,G54,G64)</sup>

Cascara is stated to possess mild purgative properties and has been used for constipation. The German Commission E approved for use for treatment of constipation.<sup>(G3)</sup>

## Dosage

**Dried bark** 0.3–1 g single daily dose.<sup>(G3)</sup>

**Infusion** 1.5–2 g in 150 mL water.<sup>(G3)</sup>

**Cascara Liquid Extract** (BP 1980) 2–5 mL.

**Preparations** Equivalent to 20–30 mg hydroxyanthracene derivatives calculated as cascarioside A, daily.<sup>(G3)</sup>

## Pharmacological Actions

The laxative action of anthraquinone glycosides is well recognised (*see* Senna). Cascara has a laxative action.<sup>(G45)</sup>

## Clinical studies

Studies involving elderly patients suggest that cascara treatment, compared with placebo, leads to relief of constipation and increased bowel movements.<sup>(1)</sup>

## Side-effects, Toxicity

The side-effects and toxicity documented for anthraquinone glycosides are applicable (*see* Senna).<sup>(G22)</sup>

### **Contra-indications, Warnings**

Cascara is contra-indicated for patients with intestinal obstruction, acute intestinal inflammation, e.g. Crohn's disease, colitis, appendicitis, abdominal pain of unknown origin, and in children under 12.<sup>(G3)</sup> Cascara should not be used over an extended period of time.<sup>(G3)</sup>

*Pregnancy and lactation* Cascara should not be used during pregnancy and lactation.

### **Pharmaceutical Comment**

The chemistry of cascara is characterised by the anthraquinone derivatives, especially the cascariosides. The laxative action of these compounds is well recognised. Cascara has been used extensively in conventional pharmaceutical preparations.

Stimulant laxatives have largely been superseded by bulk-forming laxatives. However, the use of non-standardised anthraquinone-containing preparations should be avoided since their pharmacological effects will be variable and unpredictable. In particular, the use of products containing combinations of anthraquinone laxatives is not advisable.

### **References**

*See also* General References G2, G3, G6, G9, G12, G15, G16, G18, G20, G22, G28, G29, G31, G36, G37, G41, G43, G48, G54, G61, G62 and G64.

- 1 Petticrew M *et al.* Epidemiology of constipation in the general adult population. *Health Technol Assess* 1997; 1: 1-52.