

291. *RHAMNUS PURSHIANUS* DC (RHAMNACEAE) — Cascara Sagrada, Cascara Buckthorn

Bitter cascara extract has been used in liqueurs, the debittered extract in baked goods, ice creams, and soft drink. Drug of the bark commonly employed as a purgative, strong when fresh, milder with age (e.g., 3 years). Usually sold in quills. Used veterinarily, especially for constipated dogs. Flowers an important bee forage in California. Fruits eaten raw or cooked but can cause a transient reddening of the skin.<sup>17</sup> Useful in sunscreens.<sup>211</sup> Nearly 2.5 million prescriptions (0.16% of all prescriptions sold in U.S. in 1973) sold in 1973 contain cascara extracts.<sup>98</sup>

Juice of the plant has been used for cancer and tumors, even in Kentucky.<sup>4</sup> It contains the quinone emodin,<sup>2</sup> which has shown activity in the lymphocytic leukemia and Walker carcinosarcoma tumor systems.<sup>10</sup> Used as a laxative and tonic, in gallstones and liver ailments. Tierra classifies cascara as valuable "whenever there are hemorrhoids associated with poor bowel function."<sup>28</sup> Duke and Wain classify it as aperient, diuretic, emetic, laxative, poison, and purgative.<sup>32</sup>

Primary active ingredients are anthracenes, 10 to 20% O-glycosides, based on emodins, 80 to 90% C-glycosides (like aloin) including barbaloin and deoxybarbaloin (yields cascarosides), emodin, oxanthrone, aloe-emodin, and chrysophanol. It also contains rhamnol (cinchol, cupreol, quebrachol), linoleic-, myristic-, and syringic-acids.<sup>33</sup> Contains, also, resins, fat, starch, glucose, malic, and tannic acid. Bark said to contain a glucoside which yields crysophanic acid on hydrolysis.<sup>2</sup> Also, contains cascarin and purshianin.<sup>8</sup> Dry seeds yield 6.7 to 25.4% protein, 13.4 to 56.9% oil, and 1.3 to 2.3% ash.<sup>21</sup>

**Toxicity** — Emodin can cause dermatitis.<sup>6</sup> Habitual use may induce chronic diarrhea with weakness from excessive loss of potassium.<sup>17</sup> Over a long period, melanin will pigmentize the mucous membranes of the colon. Approved by the FDA for food use (§ 172.510).<sup>29</sup>