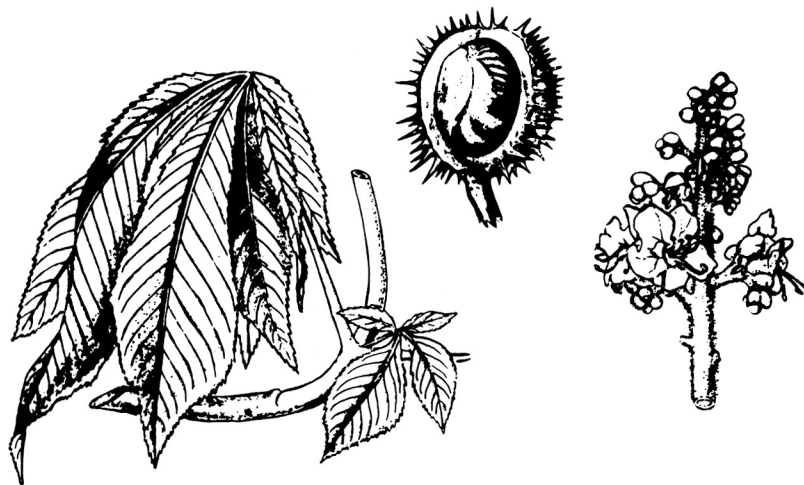


13. *AESCULUS HIPPOCASTANUM* L. (HIPPOCASTANACEAE) — Horse Chestnut

Often grown as an ornamental tree. The smooth grey-green bark has been used as a yellow dye. The soft spongy wood is sometimes used for packing cases, cutlery, soft furniture, etc. Can be made into charcoal used in gunpowder. Indians roasted the poisonous nuts among hot stones, peeled, and mashed them, and then leached the meal in lime water for several days before using the meal for making breadstuffs. According to Millsbaugh, germinating the seeds made them pleasant by changing the bitter principles to sweet, like malting barley.<sup>19</sup> Yet he suspected that the testa of the nuts was narcotic, 10 g equalling 3 g opium.<sup>19</sup> Powdered seeds or bruised branches may be used as a fish intoxicant.<sup>13</sup>

Fruits have been used as a cataplasm for mammary indurations and other types of cancer. Bark or nut infusions used for healing ulcers.<sup>4</sup> The astringent bark is said to be sternutatory, tonic, narcotic, and febrifuge, hence useful in malaria. Fruits have been used for backache, neuralgia, rheumatism, and whooping cough; also for hemorrhoids and other rectal complaints. Flowers are said to be anodyne, astringent, tonic, and vulnerary. Seed tincture applied to painful piles;<sup>8</sup> flower tinctures for rheumatism. Seeds are said to be alterative, analgesic, febrifuge, narcotic, sternutatory, tonic, and vasoconstricting.

Seeds are said to contain 3% water, 3% ash, 11% crude protein, 5% oil, and 74% carbohydrates. A kilogram of horse chestnut meal is said to have the equivalent of ca. 1.1 kg barley, 1.25 kg oats, 1.5 kg bran, and 3.4 kg good meadow hay<sup>2</sup> for feeding animals like cows and sheep. Adenine, adenosine, aesculin, aesculetin, allantoin, argyran, astragaline, carotin, choline, citric acid, epicatechin, fraxin, guanine, isoquercitrin, leucocyanidine, leucodelphinidin, phytosterol, resin, rutin, saponin, scopolin, scopoletin, tannin, and uric acid are also reported from the horse chestnut.<sup>2,33</sup>

**Toxicity** — Classified by the FDA as an unsafe herb.<sup>62</sup> Said to have killed children. Alkaloids, glycosides and saponins have all been held responsible for toxicity in the genus, but most problems probably result from the glycoside aesculin (6-beta-glucoside-7 hydroxycoumarin). Seeds are stated to have killed children who ingested them.<sup>14</sup> Symptoms of poisoning include nervous twitching of muscles, weakness, lack of coordination, dilated pupils, vomiting, diarrhea, depression, paralysis, and stupor.

**To the physician** — Gastric lavage or emesis and symptomatic treatment is recommended in cases of poisoning.<sup>34</sup> Other toxins reported from the genus *Aesculus* include nicotine, quercetin, quercitrin, rutin, saponin, and shikimic acid.<sup>15</sup>