

320. *SERENOA REPENS* (Bartel.) Small (ARECACEAE) — Saw Palmetto

Indians used the seed for food. Flowers a good source of honey. Fruit used as an aromatic in cognac.<sup>33</sup>

Fruits have been used as a folk remedy for tumors.<sup>4</sup> Morton<sup>50</sup> quotes some of the herbalist's claims: "Palmetto Berries are of great service in cold in the head, irritated mucous membrane of the throat, nose, and air passages, and in numerous other conditions . . . The reputed effect is primarily rejuvenation, . . . The fruit is a nutritive tonic, diuretic, sedative. It is highly recommended in all wasting diseases, as it has a marked effect upon all the glandular tissues, increasing flesh rapidly and building up to strength. Should be used in atrophy of testes, mammae, etc." Unfortunately or not, *Hager's Handbook*<sup>33</sup> is almost as laudatory, stating that the herb is aphrodisiac, stimulating bladder, prostate, testicles, ovaries, and uterus. Wagner and Flachsbarth report an antiphlogistic principle.<sup>294</sup> Indians used an infusion for stomachache and dysentery. Inner bark of the trunk poulticed onto bugbite, snakebite, and ulcers. Dried fruits believed useful for indigestion, respiratory infections, and catarrhal irritation. Used for underdeveloped breasts.<sup>33</sup> Steinmetz<sup>27</sup> lists the herb as aphrodisiac, diuretic, sedative, stimulant, tonic, and "one of the most nourishing medicines we have." According to Hutchens,<sup>30</sup> "Serenoa is of great service for colds in the head, irritated mucous membrane of the throat, nose, and air passages, and chronic bronchitis of lung, asthma. Of use in renal conditions and diabetes." Also, suggested for epididymitis and cystitis.

Contains volatile oil, fixed oil, glucose, *circa* 63% of free acids, 37% ethyl esters.<sup>2</sup> Dry fruits contain beta-sitosterol (said to have both aphrodisiac and anticancer activity).<sup>4,10,15</sup> On alkaline hydrolysis, the shrubs yield 61.8% *p*-oxybenzoic acid, 0.6% *p*-oxybenzaldehyde, 1.5% vanillic acid, 0.3% vanillin, 0.6% acetovanillone, 1.0% syringic acid, 0.8% syringaldehyde, 0.9% acetosyringone, and 1.9% ferulic acid. In the seed oil there is stearic acid and the glycerides of capric-, lauric-, myristic-, palmitic-, and oleic-acids. The fruit contains carotene, lipase, tannin, resin, *circa* 28.2% invert sugar, mannitol; the dried fruit contains 0.0189% beta-sitosterol and 0.022% beta-sitosterol-D-glucoside; anthranilic acid and three flavonoids. Beta-sitosterol probably lies behind the counterculture claims that saw palmetto berries will enlarge the breasts. There are relatively high concentrations of free and bound sitosterols in dry berries. Injected into immature female mice, beta-sitosterol is estrogenic. Still, the saw palmetto extract is only 1/10,000 as potent as estradiol. Pure beta-sitosterol is less than 1/10 as potent. Further, the studies injected the sitosterols, which are poorly absorbed in the gastrointestinal tract. Since beta-sitosterol is not very soluble in water, herb teas would not contain much in solution, so Tyler concludes, perhaps correctly (but his conclusion could readily be tested analytically), "a cup of saw palmetto tea contains about as much real estrogenic activity as a cup of hot water."<sup>37</sup> The fruit flesh contains about 1.5% palmetto oil, up to 63% free fatty acids and caproic-, caprylic-, capric-, lauric-, palmitic-, and oleic-acids, and up to 38% of their ethyl esters.<sup>33</sup>

**Toxicity** — Classified by the FDA<sup>62</sup> as an Herb of Undefined Safety: "Saw Palmetto berries yield about 1.5% of oil composed of free fatty acids and ethyl esters of these acids. Claimed to exert a stimulant action upon mucous membrane of genitourinary tract. Has been used in chronic and subacute cystitis and in cases of enlarged prostate in old men. Reputed aphrodisiac."