

104. *CRATAEGUS OXYACANTHA* L. (ROSACEAE) — Hawthorn

Ornamental tree with edible fruits, often made into marmalade. A vitamin C-rich beverage like a tea is made from the rind and pip. Berries have been made into excellent brandies and liqueurs. Leaves have been used to adulterate tea.² The wood is yellowish-gray, close and even-grained, smooth, durable, hard, and heavy (weight 46 to 56 lb/ft³). It is used for axe handles and walking sticks. It is suitable for engraving and is as good for this purpose as boxwood. According to Grieve's *Herbal* it makes the hottest fire of any fuelwood known.² Its charcoal is said to melt pigiron without the aid of a blast.

Reported to be astringent, cardiogenic, cyanogenetic, depurative, diuretic, fumitory, stomachic, tonic, hawthorn is a folk remedy for arteriosclerosis, dropsy, dyspnea, hypertension, nephrosis, sore throat.^{2,32,37} *The Wealth of India*¹ describes the fruit extract as a cardiac tonic, used for organic and functional heart diseases such as dyspnea, hypertrophy, valvular insufficiency, and heart oppression. (After stopping the drug, the blood pressure returns to its previous level.) More recently, Tyler summarizes: "it acts on the body in two ways: First it dilates the blood vessels, especially the coronary vessels, reducing peripheral resistance and thus lowering the blood pressure. It is thought to reduce the tendency to angina attack. Second, it apparently has a direct, favorable effect on the heart itself which is especially noticeable in cases of heart damage. It therefore seems to be a relatively harmless, mild heart tonic which apparently yields good results in many conditions where this kind of therapy is required."³⁷

Fresh fruit contains citric-, crataegus-, and tartaric-acids, pectins, and fatty oil (0.76%). Sugars, predominantly fructose and glucose, constitute *circa* 35% (ash *circa* 32%) of DM. Cyanogenetic glucosides are present in the young shoot, amygdalin and emulsin in the seed. Leaves contain calcium oxalate. Bark fat contains palmitic-, stearic-, myristic-, and resinic-acid, ceryl alcohol, tanning matter, invert sugar, polysaccharides, salts of oxalic and tartaric acids, esculin (crataegin), and a lupeol-like compound. Wood contains 25% pentosans. Flowers contain 0.157% essential oil, quercetin, quercitrin, and trimethylamine. Hawthorn marmalade has up to 0.15% vitamin C,¹ oligomeric procyanadins (dehydrocatechin) are probably foremost among the active ingredients. *Hager's Handbook* adds many other compounds, some of them pharmacologically active: ethylamine, dimethylamine, trimethylam-