164. *HEDERA HELIX* L. (ARALIACEAE) — Ivy

Once upon a time the leaves of this ornamental evergreen vine formed the poet's crown, as well as the wreath of Bacchus, to whom the plant was dedicated. Ivy was bound around the brow to prevent intoxication. A garland of ivy hung outside ale houses indicated that wine was sold inside. Greek priests presented an ivy wreath to newly married persons to symbolize fidelity. Sheep and deer are said to eat the leaves in winter, though cows often will not.[38] Containing *circa* 10% saponin, the leaves have been used for washing wool. Leaves boiled with soda are used to wash clothes. Young twigs yield a yellow and brown dye. Hardwood can be used in engraving as a boxwood substitute. Recently, an ivy extract has found its way into French massage creams and soaps.[38]

Regarded as antiseptic, astringent, cathartic, contraceptive, diaphoretic, emetic, emmenagogue, laxative, pediculicide, purgative, stimulant, sudorific, vasoconstrictor, vasodilator, and vermifuge, ivy is used for rheumatism, sclerosis, scrofula, toothache, etc. The leaf is used for cacoethes, calluses, cancer, cancromas, chironies, corns, warts, and wens; the juice for cancer or polyps of the nose. South African whites apply the vinegar-steeped leaves to cancerous growths and corns.[3] Chinese use the leafy shoot decoction for cough and headache.[16] The plant is also used for various indurations and cancers (lymph, mammaries, uterus).[4] Ivy leaves were once bruised, gently boiled in wine, and drunk to alleviate intoxication by wine. Flowers, decocted in wine, were used for dysentery. Plant said to have been used as an emetic and narcotic in at least three continents. Yellow berries used for jaundice and hemoptysis. Infusion of the fruits is used for rheumatism. In the Mediterranean, ingestion of 1 g powdered fruit is said to result in sterility.[3] Still, the resin has been believed to be aphrodisiac. Tender ivy twigs, boiled in butter, were used to treat sunburn. The resin from old stems is placed on toothache and is believed to be aphrodisiac, emmenagogue, and stimulant. Leaf has been applied to destroy vermin, e.g., head lice. Slight antimalarial activity is reported.[38]

Leaves contain the saponin alpha-hederin $C_{41}H_{66}O_{12}$ and beta-hederin, the bisdesmoside hederacoside B and C, germacrene B, beta-elemene, and elixen. Twigs contain rutin, isoquercitrin, kaempferol-3-rhamnoglucoside, chlorogenic- and isochlorogenic-acids, derivatives of ferulic- and *p*-coumaric acids, and scopoline. Wood and leaves contain hederacoside A ($C_{41}H_{66}O_{13}$) which hydrolyzes to hederagenin, arabinose, and glucose. Leaves and leafstalks contain vitamin E and provitamin A. The emetic alkaloid emetine has been reported. Stalks and roots contain falcarinone $C_{17}H_{22}O$.[33] The pericarp of immature fruits is rich in lecithin (1.7%). The sapo-glycoside hederin isolated from the leaf is said to be intensely hemolytic. Alcoholic extract of the fruit lowers the blood pressure. Dry seeds contain 16.2% protein and 35.1% fat.[21] The seeds contain a semidrying oil with 5.1% palmitic, 62% petroselenic, 20% oleic, and 13% linoleic acids. Perry adds hedera-tannic acid.[16]

Toxicity — An extract of the leaves, used as a corn cure, caused dermatitis, which recurred when the patient touched the leaves. A scarlatiniform eruption followed ingestion of the leaves. Handling may cause dermatitis, even blistering and inflammation.[3] Berry said to cause poisoning in children, leaves in cattle.[3] Large quantities taken internally may cause diarrhea, excitement, nervousness, labored respiration, convulsions, coma, and possibly death.[56]

To the physician — Hardin and Arena suggest gastric lavage or emesis, symptomatic and supportive treatment, 2 to 10 cc paraldehyde I.M., oxygen, and artificial respiration as necessary.[34]