

202. *LAWSONIA INERMIS* L. (LYTHRACEAE) — Henna, Egyptian Privet, Mignonette

Leaves provide an important cosmetic dye. In India and Pakistan henna is widely used by both men and women for coloring nails, fingers, hands, and hair. Hair is dyed a brownish-chestnut shade which turns black on conjunction with indigo. An infusion of dried leaves with a little lime juice is used to dye the hair. Henna leaves dye fingers, nails, hands, and feet a dull orange. A deep red color may be obtained when henna is mixed with catechu. Infusion of leaves also used for dyeing cotton fabrics a light reddish-brown. Wool and silk may also be dyed by henna. Some Egyptian mummies were wrapped in henna-dyed cloth.⁸ Leaves also used in manufacture of perfumed oils and as a tanning agent. Dried leaves are the source of a green powder used in cosmetics.⁸ Flowers give an essential oil (mehndi oil) long used in Indian perfumery. Plants grown as hedge plants throughout India. Wood used to make tool handles, tent pegs, and other small articles. Gallic acid from the leaves inhibits *Streptococcus aureus* slightly. Shihata et al.¹⁹⁴ “proved that *Lawsonia inermis* extracts possessed cardio-inhibitory, hypotensive, intestinal antispasmodic, and uterine sedative effects. Moreover the extracts significantly increased the body weight gain of growing mice and ruminal gas production in sheep.”

Fruit oil is a folk remedy for indurations of the liver and diaphragm. The ointment made from the oil is said to remedy tumors of the mouth. Poultices of the leaf are said to remedy various types of tumors.⁴ Lawsonsone shows anticancer activity against Sarcoma 180 in mice and Walker 256 carcinosarcoma.²⁹ In Malaysia, the leaf decoction is used after childbirth, and for beri-beri, rheumatism, skin disorders, stomach disorders, and venereal disease. In Indonesia, leaves are used for jaundice, leprosy, and scurfy affections.¹⁶ Mixed with the poisonous *Plumbago*, it is said to be abortifacient. Henna powder sprinkled onto rheumatic pains. Used for herpes in Java. Elsewhere, the plant is used for amebiasis and headache.²⁹ Cambodians drink a root decoction as a diuretic. Bark is given in jaundice and for enlargement of spleen, and as an alterative in skin diseases and leprosy. In Arabic medicine, the bark decoction is used for jaundice and nervous symptoms.⁸ Henna leaves used as prophylactic against skin disease. The tea made from the leaves is said to prevent obesity.¹⁶ Powdered seed said to be a cerebral stimulant. Decoction of leaves used as astringent gargle in sore throat. Oil and essence rubbed over body to keep body cool. Flowers are refrigerant and soporific. Fruit said to be emmenagogue. Leaves said to act as an antiperspirant and sedative. Leaves are poulticed onto gatherings under the nails, resulting from the loss of the nail.²⁷

Seeds contain 10.6% water, 5.0% protein, 10 to 11% fatty oil, 33.6% carbohydrate, 33.6% fiber, and 4.8% ash. The oil contains 1.7% behenic, 9.6% arachidic, 15.8% stearic, 9.1% palmitic, 34.7% oleic, and 29.3% linoleic acids. Mehndi oil is high in alpha- and beta-ionones. Air-dried leaf powder contains 9.0% water, 14.8% ash, and 10.2% tannin. Gallic acid has been isolated from the leaves. The principle coloring matter is lawsone (2-hydroxy 1,4-naphthaquinone), which has been used as a topical sunscreen. Also, reported are 1,4-naphthoquinone, tannin, laxanthone-I and laxanthone-II, and lacoumarin. Mahmoud et al.¹⁹⁵ isolated from the leaves luteolin, luteolin-7-*O*-glucoside, acacetin-7-*O*-glucoside, glucoside of beta-sitosterol, laxanthone-I and -II, and lawsone. Chakrabarty et al.¹⁹⁶ isolated dihydroxy-lupene and lupane from the bark.

Toxicity — Henna dust can irritate the skin and cause contact dermatitis. When used as a dye for eyebrows and eyelashes, there is a risk of injury to the eyes, perhaps due to the astringent tannin.⁶ The LD₅₀ of alcoholic extract of henna 1P in mice is 665 mg/kg.¹⁹⁴ Henna leaves exhibit antifertility activity in female rats.²⁹ Approved for use as a color additive exempt from certification, to be used in cosmetics (hair) only (§ 73.2190).²⁹