

301. *RUTA GRAVEOLENS* L. (RUTACEAE) — Rue, Garden Rue, German Rue

Fresh or dried leaves are used sparingly to season such beverages and foods as cheese, meat, vegetable juice, salads, stews, vegetables, and wine. Eaten in Italian salads, where said to preserve the eyesight.² Ethiopians grind the fruits with capsicum to make a hot sauce.³⁸ They also use the leaves as a rennet³⁸ and with coffee leaves to make a coffee-like beverage. Fresh herbs contain about 0.06% of a volatile oil, for flavoring, as an aromatic in perfumes, in soaps, and toilet preparations. Rue water, sprinkled about the house, was supposed to kill fleas, and still believed to repel insects. Arabs chew the plant and add it to suspect drinking water. Affirmed by the FDA as GRAS (rue § 184.1698; oil or rue § 184.1699), oil of rue is said to be used as a flavor component (e.g., coconut type) in “most” major food products, including alcoholic (bitters, vermouth) and nonalcoholic beverages, baked goods, candy, frozen dairy desserts, gelatin, and pudding. Average maximum use levels are reported below 0.01%. The herb itself shows up in baked goods, candy, frozen dairy desserts, and nonalcoholic beverages. Average maximum use levels are below 0.0002% (2 ppm).²⁹ The rue alkaloid, arborinine, has abortive, antiinflammatory, antihistaminic, and spasmolytic properties. The furocoumarins, bergapten and xanthotoxin, have spasmolytic effects on smooth muscles and have phototoxic properties useful in treating psoriasis. Hirudicidal, nematocidal, and vermifugal activity is attributed to 2-undecanone, the major component of rue oil. Fagarine, graveoline, and skimmianine are weakly abortive and spasmolytic.³³ Rutin, first isolated from rue, is best known for its ability to decrease capillary permeability and fragility. It is also said to be a cancer preventitive, i.e., inhibiting tumor formation on mouse skin by the carcinogen benzopyrene, and protective against irradiation damage. Rutin is also useful to counteract edema, atherogenesis, thrombogenesis, inflammation, spasms, hypertension. It was once official in the U.S. for arteriosclerosis, hypertension, diabetes, and allergic manifestations. It is suggested that it may be useful for stroke prevention.

Pliny is said to have mentioned 84 remedies containing rue. Warm fomentations of the oil are folk remedies for liver indurations. The leaf is said to alleviate scirrhus and scleroma of the uterus, cancer of the mouth, tumors, and warts. Expressed juice of the leaves is dropped, lukewarm, into the ears for earache.⁴² The seed is said to alleviate warts and tumors.⁴ In old herbals, recommended for ague, cough, croup, earache, epilepsy, gout, headache, hysteria, nightmare, sciatica, and vertigo. In Poland, used as an aphrodisiac and choleric. Herb used medicinally as a bitters, an aromatic stimulant, antispasmodic, ebolic, and emmenagogue, in suppression of the menses, for gas pains and colic, hysteria, and amenorrhea. In Chinese medicine rue, regarded as an emmenagogue, hemostat, intestinal antispasmodic, sedative, uterine stimulant, and vermifuge, is used for bug bite, cold, fever, rheumatism, snakebite, and toothache.^{28,29} In Latin America it is used as an abortifacient and emmenagogue, and to treat epilepsy, fever, headache, heart conditions, measles, parturition, scarlet fever, and worms.⁴²

Rue oil contains up to 90% or more of two ketones, methyl nonyl ketone and methyl heptyl ketone. Several alkaloids (arborinine, gamma-fagarine, graveoline, graveoline, kuskuginine, 6-methoxydictamine, rutacidone, skimmianine, pinene, limonene, cineole, methyl-n-heptyl carbinol, methyl-n-nonyl carbinol, salicylic acid,⁷ 2-heptanone, 2-octanone, 2-nonanol, 2-undecanol, undecyl-2-acetate, anisic acid, phenol, guaiacol, bergapten, xanthotoxin, rutamarin, psoralen, isoimperatorin, pangelin, and rutarin. Caprinic, caprylic, oenanthylic, and plagonic acids and rutin are also reported.^{2,7,29} Plant yields 5-methoxypsoralen and 8-methoxypsoralen. Dry seeds of *R. chalepensis* contain 26.4% protein and 33.2% fat.²¹

Toxicity — An acro-narcotic poison in excessive doses internally; externally irritant and rubefacient. Oil, very dangerous, has been said to cause abortion. Handling of the foliage,