

A mini review on chemistry and biology of *Hamelia Patens* (Rubiaceae)

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ABSTRACT

Hamelia patens Jacq. Commonly known as "redhead," "scarlet," or "firebush," belongs to the Meddier family (Rubiaceae), different parts (leaves, stem, flower, root, seeds and even whole plant) of *Hamelia patens* used. It is a perennial bush, and grow in full sun and in shade. It grows to about 6 feet. Neotropical shrub *Hamelia patens* Jacq has been cultivated as an ornamental in the United States, Great Britain, and South Africa. *Hamelia patens* have contained pentacyclic oxindole alkaloids: isopteropodine, rumberine, palmirine, maruquine and alkaloid A, B and C, other chemical constituents are apigenin, ephedrine, flavenones, isomeruquine, narirutins, pteropodine, rosmarinic acid, narirutin, seneciophylline, speiophylline, and tannin. In last few decades several Indian scientists and researchers have studied the pharmacological effects of steam distilled, petroleum ether, chloroform, ethanol & benzene extracts of various parts of *Hamelia* plant on immune system, reproductive system, central nervous system, cardiovascular system, gastro system, urinary system and blood biochemistry.

Key words: *Hamelia patens*, alkaloids, Traditional uses

INTRODUCTION

Plants are one of the most important sources of medicines. Today the large numbers of drugs in uses are derived from plants. The genus *Hamelia patens* (family-Rubiaceae) commonly known as "bayetilla," "trompetilla," "coralillo," or "hierba coral. These two last names are related to the red color of some of its organs.^[1-2] The genus *Hamelia* (family Rubiaceae) consists of 16 species of shrubs or small trees native to lowland neotropical areas ranging from southern Florida, the West Indies, and Mexico to Brazil and Argentina.^[3] *Hamelia patens* was named a Texas Superstar by Horticulture Department at Texas A&M. University because of its excellent performance during the hot dry Texas summers, it is recommended as a low maintenance native shrub in Florida,^[4] and has been promoted as an attractant for hummingbirds and butterflies to gardeners throughout the southern U.S. as a perennial or annual.^[5] *Hamelia patens* has been introduced and cultivated for at least

250 years, with six species grown in England in 1839.^[6-7] It grows as a tree in the Atlantic tropical lowland of Costa Rica.^[8] It is a reliable tropical plant that has found its way into many a landscape because of its proven drought and soil tolerance that basically can grow anywhere. Firebush should be planted in full sun or part shade in well-drained soil beginning in mid-May and on into the summer. Firebush can tolerate many types of soils from heavy clays to high alkaline as long as it has good drainage. *Hamelia patens* does not have pest or disease problems that plague so many of the tropical. To the delight of organic growers, this plant is a prize, because it requires no pesticides. Use a complete fertilizer at planting and then once a month with soluble nitrogen to continue a strong blooming show. The show continues for into the fall when the foliage changes to a striking blood-red color.^[9] But it can easily be killed when overwatered.^[10] The species can be propagated from seeds, but most commercial ornamentals are produced from cuttings, monthly production may simply be a direct result of seasonal changes in the physical environment.^[11] A more complicated level of control would be an adjustment in fruit ripening rate to match changes in fruit removal rates.^[12] Firebush flowers throughout the year. It is a hummingbird-pollinated plant.^[13] The flowers are also visited by butterflies.^[14] *Hamelia patens* in India shows considerable variation in floral morphology, pollination and fruit set in different seasons. *Hamelia patens* at Agra, in order to compare

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