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Medicinal and socio-cultural values of *Lawsonia inermis* L.

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Abstract: *Lawsonia inermis* L., popularly known as Henna or Mehndi, is an evergreen medium-sized shrub of the family Lythraceae. The use of *L. inermis* for medicinal, mythological, and cosmetic purposes is intricately linked to the ancient and modern cultures of India. The present article describes the medicinal properties as well as the traditional uses made by different communities in the various regions of India. The information collected is based on literature survey, field studies and personal interviews with local and rural communities. The present study highlights the importance of plants having various uses and being linked with Indian culture.

Keywords: Cultural, Mythological, Medicinal, Mehndi

Introduction: *Lawsonia inermis* belonging to the family Lythraceae, is commonly known as "Henna" or Mehndi (Plate 1). The name is derived from the Sanskrit name Mehaghni," which is synonymous with turmeric. The use of Mehndi is described in the earliest Vedic ritual books as a symbolic representation of the outer and inner sun in Vedic customs meant to awaken the "inner light," as the gold of the inner sun has an important symbolic function. The traditional mehndi design with the drawn palm represents the

mind (Singh et al. 2009). At the time of the reign of Augustus, Emperor of Rome (27 B.C.–A.D. 14), Egypt became an important trade source for the commerce of Mehndi between Rome and India. There are ancient rituals in the Ajanta-Ellora caves near Mumbai dated before A.D. 350 that remarkably show a prince of Patliputra reclining under a tree, half asleep, having her hands and feet painted with flowery henna designs. Historians mention that henna may have been brought to India along with Persian horses around A.D. 712 and has been in cultivation in Rajasthan since around 1476. The cultivation practises and medicinal properties of henna have also been studied (Lodha, 2003). Henna is cultivated in India, the Middle East, and parts of tropical America and is planted in home gardens as living hedges and as an ornamental plant. It is a perennial shrub, branching profusely and reaching a height of up to 6 m. The plant grows rapidly and resembles a bush. The leaves are rather small, about 2-3 cm long and 1-2 cm wide, lanceolate, dark-green, glabrous, opposite, and with very short petioles. Flowers are numerous, small, white, or pale pink-coloured, and fragrant. The fruits (capsules) are borne in clusters and are green in colour, turning red to brown upon ripening (Singh et al. 2009; Plate 1). An attempt has, therefore, been made by the present authors to explore the traditional uses of mehndi and assess its value to the people.

Material and methods: The course of the present investigation includes the exploration of various regions of India to find out the medicinal and traditional usages of mehndi. The data presented here are based on first-hand information and related published literature (Singh et al. 2009).

Results and discussion: Henna's auspicious reddish colour merits its use during all ceremonies related to marriage (Vivaha) and married women. It denotes the prosperity that a bride is expected to bring to her new house. A day before the wedding, all the friends and relatives of the bride get together, and the dark green paste of henna leaves is applied to the hands with decorative designs (Singh et al. 2009). *L. inermis* played an important holistic role in the daily lives of some ancient cultures, providing psychological and personal adornment as well as being used for medicinal benefits. When the sole of the human foot is hot and there is a burning sensation in the sole, applying a paste of mehndi leaves soothes the sole and makes us feel sleepy. When there are cracks in the heel of the human foot, applying a paste of mehndi leaves for 12 hours makes the skin soft, and applying it for seven

days continuously heals up the cracks. If there is a headache due to tension, then applying a paste of henna powder to the head reduces the pain as well as the tension. If there are pimples on the face, then applying a paste of multani miti, sandalwood powder, and henna powder mixed in equal quantities for 21 days continuously makes the pimples disappear. If there are rashes and boils on the skin or head, then apply a paste of either henna powder or a paste of the bark of mehndi. Due to excessive sun exposure and high temperatures, when the skin is sunburnt, applying a paste of multani miti and henna powder in equal quantities with 5 ml of rose water soothes the skin if used regularly for 15 days. Applying a paste of henna powder in Nisode's oil to burnt skin soothes it, and on continuous use, it does not leave any scars on the skin (Singh et al. 2009).



Plate 1: *L. inermis* (a) flowers, (b) fruits, (c) leaves, and (d) whole plant

Mythological values: On several Hindu festivals, ladies and girls apply mehndi paste to their hands. The religious festival of Karva Chauth is considered incomplete without the use of mehndi. Married women decorate their hands and keep fast for the long life of their husbands (Singh et al.

2009). During offering prayers to the goddess, the mehndi is applied to her hands as well as to our hands. During keeping fast to please the goddess, the mehndi is applied to the hands (Singh et al. 2009).



Figure 1: Collection of plant parts and information on Mehndi from Mahanadi River areas, Cuttack, India

Cultural values: Mehndi is used for making rangolis, i.e., decorative paintings on the floor using dry colour, on different festivals. When a newlywed lady enters her husband's house for the first time, in Indian culture, her hands are dipped in mehndi paste and then applied on the side of the main door for good luck. When a person shifts into his own new house, the lady of the house dips her hands in mehndi paste and applies it to the sides of the main door for good luck ([Figure 1](#)). The family gets together, and hands are dipped in mehndi paste and applied to the sides of the door for good luck ([Singh et al. 2009](#)). While making a drumet, a layer of mehndi paste is applied to its skin to provide strength and smoothness.

Cosmetic values: Cosmetically, mehndi is used vividly in Indian society, viz., to decorate tattoos on hands as well as on other parts of the body, to provide natural hair colour, and to condition hair.



Figure 2: Gorgeous fruits of Mehndi near Mahanadi River areas, India

The present observations clearly indicate that the traditional uses of mehndi started (Figure 2) with the birth of Indian culture. At that time, there was no knowledge of the chemical composition of henna, yet the men used henna for their welfare. However, at this time, biochemical and other estimations proved that henna has several properties for human welfare (Singh et al. 2009). Hanke and Tallat (1961) have also studied some traditional uses of henna. According to them, henna is used in hair cleaning, conditioning, and occasionally as a temporary dye to colour fabrics and textiles. Henna is also used as a medicinal plant because of its attributed antibacterial, antifungal, astringent, antihemorrhagic, hypotensive, and sedative effects. It has also been used as a folk remedy against headaches, jaundice, and leprosy in many cultures around the world. Scientific studies also proved that henna is a better hair conditioner than other commercial conditioners (Cajkovac et al. 1996). Henna is being investigated for its antimicrobial, antibacterial, and antifungal properties (Malekzadeh and Shabestari 1989; Rosenberg 1999). The henna fruits are antiviral (Khan et al. 1991), and the bark extracts are protective for the liver, preventing oxidative stress (Ahmad et al. 2000; Anand et al. 1992). Pratibha and Korwat (1999) have studied that Lawsone (2, 4-hydroxynaphthoquinone) is responsible for colour development in henna. Natarajan and Mahendraj (2000) studied the anti-dermatophytic activities of *L. alba*. The antidermatophytic activities of ethanol, ethyl acetate, and hexane extracts of *L. alba* were tested on five strains each of *Tinea rubrum* and *T. mentagrophytes*, which showed significant antidermatophytic properties in vitro. The wound-healing activity of the leaves of *L. alba* has also been studied (Patil and Mandawgade 2003). *Lawsonia alba* Lam. ethanol leaf extract has significant wound healing properties. It can also be concluded that flavonoids may be responsible for wound healing activity.

Conclusion: The foregoing results and discussion proved that the medicinal properties and traditional uses of henna are very important in all aspects. The villagers recommend this plant for various traditions and against diseases without knowing its phytochemistry which indicate our rich traditional therapeutic knowledge of our country.

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