

DRUG STANDARDISATION

Pharmacognostic Studies on Lawsonia Inermis

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Introduction:

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| Botanical Name | : | Lawsonia inermis Linn. |
| Synonym | : | Lawsonia alba Lam. |
| Family | : | Lythraceae |
| Vernacular Names | : | Bengali - Mehedi, Mendi English - Henna plant Gujarati - Medi, Mendi Hindi - Mehndi, Hena Kannad - Mayilanchi, Gorante Kashmiri - Mohuz Malyalam - Mayilanji, Pontalasi Marathi - Mendhi Oriya - Mehendi, Olota, Benjali Punjabi - Mehndi, Nakrize, Hinna Sanskrit - Mendhika, Ragagarbha, Ragangi Tamil - Marudondri, Pidai, Aivanam Telugu - Gorinta, Krommi Urdu - Mehendi |
| History & Authority | : | Les Souches Homoeopathiques, 81 |
| Distribution | : | Cultivated and naturalized all over India. |

Description:

A glabrous, much branched shrub, lateral branches 4- gonous, often ending in a spinous point. Leaves 1.3-3.2 by 0.6-1.6 cm, elliptic or broadly lanceolate, acute or obtuse, often mucronulate, base tapering; petiole very short. Flowers numerous, less than 1.3 cm across, fragrant, white or rose coloured, in large terminal pyramidal paniced cymes, pedicels short, slender; calyx 3.5 mm long, broadly campanulate, lobes 2.5-3mm long, ovate, acute; petals 3 mm long, as broad as long, suborbicular or subreniform, undulate; stamens 8, inserted in pairs in calyx tube. Capsule 6 mm in diameter, globose, slightly veined outside, supported by the persistent calyx and tipped with the style. Seeds trigono-pyramidal, about 2.5 mm long, externally subtuberculate.

Part used: Leaf.

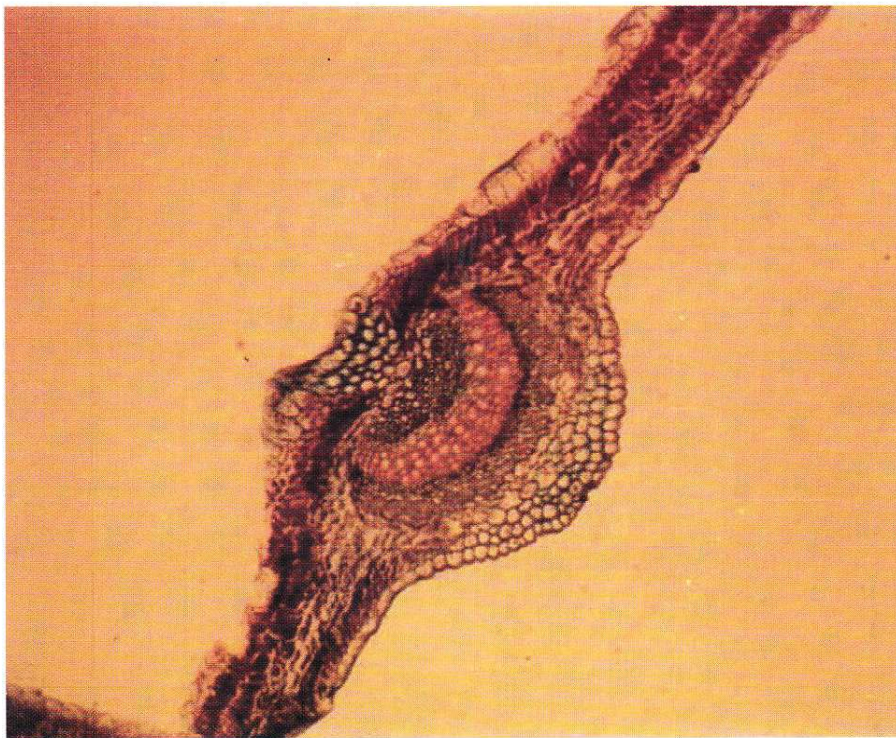
MACROSCOPICAL:

Leaves simple, greenish-brown to dull green, short petioled, lanceolate, margin entire and revolute, apex acute or obtuse, often mucronate, base tapering, surface glabrous, venation pinnate, lateral veins curved and join the margin; odour, when crushed aromatic; taste sweet, mucilaginous and slightly astringent. A decoction of leaves in water is orange brown and it becomes deeper upon addition of an alkali.

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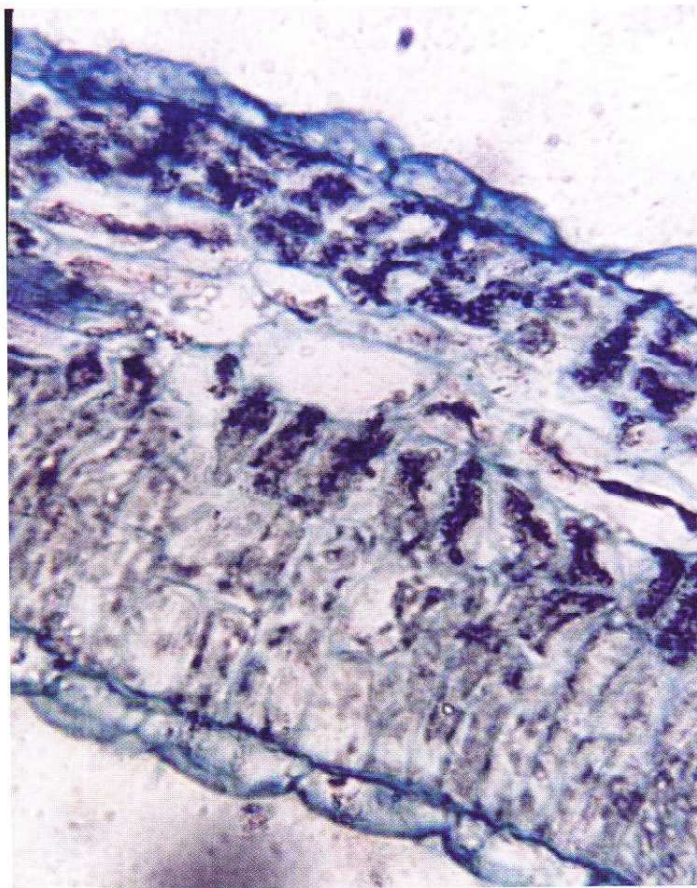
A flowering twig .



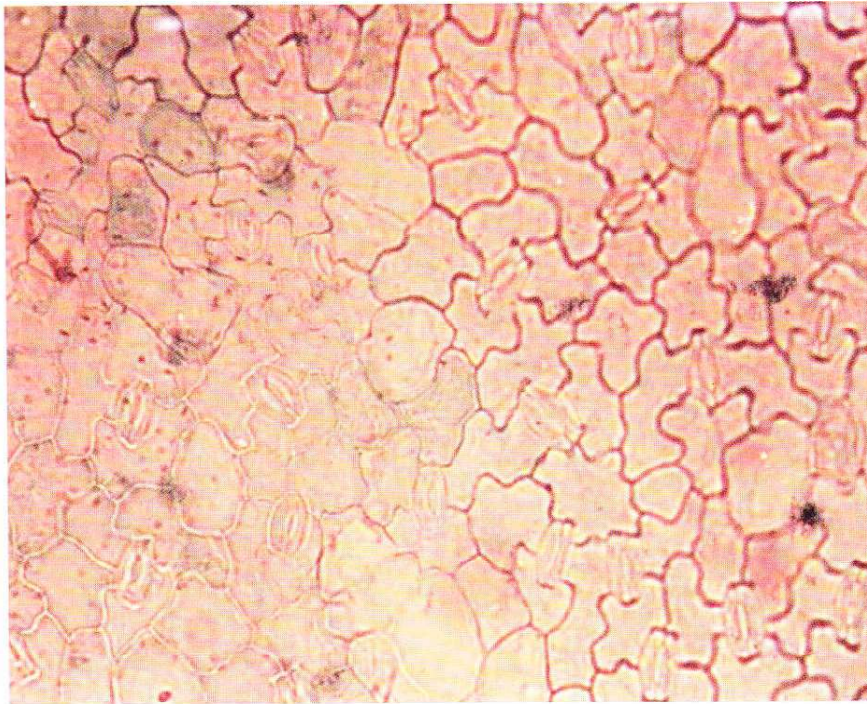
T.S. of leaf through midrib region



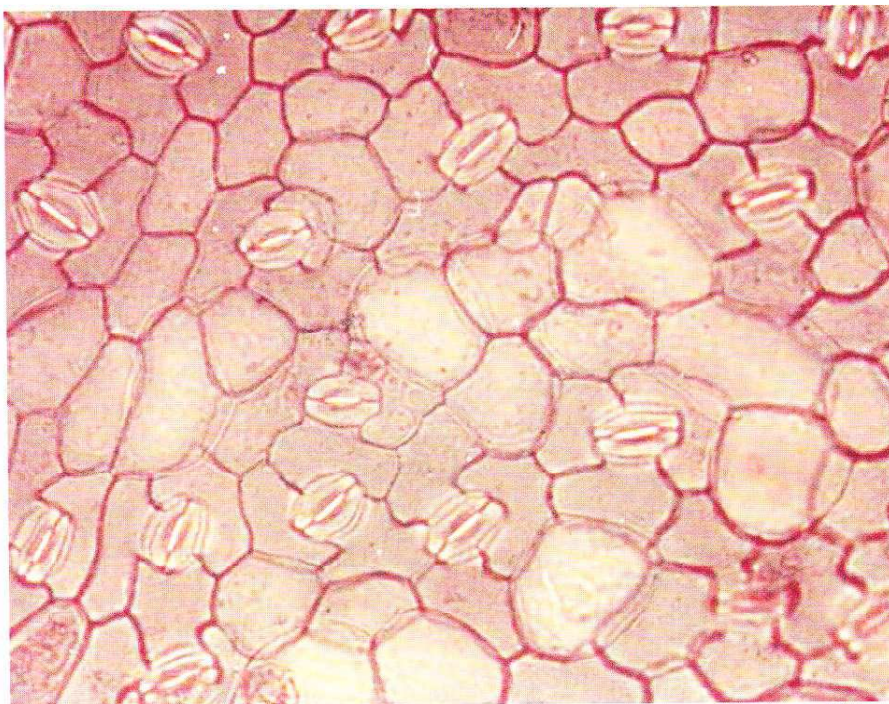
T.S. of petiole.



T.S. of leaf, a portion of lamina enlarged.



Surface view of abaxial epidermis showing stomata.



Surface view of adaxial epidermis showing stomata.

MICROSCOPICAL:

Lamina dorsiventral but also exhibits isobilateral characteristic; transverse section shows: epidermis single layered, with mucilaginous sacs projecting into palisade, upper epidermal cells in surface view polygonal with wavy walls and striated cuticle, lower epidermal cells with straight to slightly wavy walls and smooth cuticle; stomata on both the surfaces, anomocytic and anisocytic, stomatal index 15-30 on lower epidermis and 10-16 on upper epidermis; mesophyll differentiated into 1-3 layers of palisade and 3-5 layers of spongy parenchyma in dorsiventral leaf and additional layer of palisade adjacent to lower epidermis in isobilateral leaf, palisade ratio 5-8; midrib and lateral veins prominently projected from lower surface; midrib shows epidermis of single layer of squarish to cubical papillose cells with no mucilaginous sacs; meristele crescent shaped, vascular bundles conjoint, collateral (bicollateral in isobilateral leaves) embedded in parenchymatous ground tissue and hypodermal collenchyma; rosette aggregates and occasional prisms of calcium oxalate scattered throughout parenchymatous tissue. Petiole, hemispherical with narrow adaxial groove; transverse section exhibits central large crescent shaped stele with conjoint, collateral and bicollateral (in isobilateral leaf) vascular bundles enclosed by few groups of sclerenchyma and embedded in parenchymatous ground tissue.

Powdered Drug :

Epidermal cells with striated cuticle and anomocytic and anisocytic stomata; fragments of oval to rounded, collenchyma cells with angular thickenings; thick-walled, narrow-lumened fibres, vessels with spiral and pitted thickenings; fragments of parenchyma cells, palisade and spongy tissue; globular mucilaginous sacs and few parenchyma cells containing rosette aggregates of calcium oxalate.

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