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## ***Mastagi* [*Pistacia lentiscus* Linn]: An unani drug of plant origin: A review**

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### **Abstract**

*Mastagi* [*Pistacia lentiscus* Linn] commonly known as mastic tree has been used in unani system of medicine for the treatment of various kinds of diseases since long time. This is a shrub or tree with separate male and female plant. The resin has strong smell and imported into India from other Mediterranean countries. Pharmacological activities of *mastagi* includes *Mulattif* [demulcent], *Muharrik* [stimulant], *Jali* [detergent], *Mudir-e-bowl* [diuretic], *Habise ishaal* [anti-diarrhoeal], *Kasire riyah* [carminative] etc. The aim of this review paper is to highlight the pharmacological effects in detail.

**Keywords:** *Mastagi* [*pistacia lentiscus* Linn], unani herbal medicine and pharmacological properties

### **1. Introduction**

*Mastagi* is a dioecious tree, botanically known as *Pistacia lentiscus* Linn, belongs to family Anacardiaceae<sup>[1, 2, 3, 4]</sup>. The resin part of this plant is known as Mastic resin and plant is called as Mastic tree. It has a great medicinal value and already been used in traditional system of medicines like Unani and Ayurveda.<sup>[5]</sup> It is evergreen small tree growing up to 1-8 meter tall, well adapted to hard conditions due to its exceptional high resistance.<sup>[6]</sup>

**Botanical name:** *Pistacia lentiscus* Linn.

**Family:** Anacardiaceae<sup>[1, 2]</sup>

### **Synonyms**

*Pistacia terebinthus* Linn  
*Pistacia Vera* Linn.<sup>[4]</sup>

### **Scientific Classification**<sup>[5]</sup>

Kingdom	:	Plantae
Subkingdom	:	Viridiplantae
Division	:	Tracheophyta
Class	:	Magnoliopsida
Order	:	Sapindales
Family	:	Anacardiaceae
Genus	:	<i>Pistacia</i>
Species	:	<i>Pistacia lentiscus</i> L

### **2. Habitat and Distribution**

*Pistacia lentiscus* Linn is widely distributed in Mediterranean countries<sup>[1, 2, 3, 5]</sup> like Morocco and Iberian Peninsula and in the west through Southern France, Turkey, Iraq and Iran. It is also cultivated in England. Its resin is imported into India from Asia Minor through Persia and Afghanistan<sup>[1, 2]</sup>.

### **Vernacular Names**<sup>[1, 3]</sup>

Unani	:	Mastagi, Roomi mastagi, Mastaki
Arabic	:	Mastaki, Alakhhmee, Ilkurumee, Mastagi
Urdu	:	Rumec Mastagi
English	:	Mastic tree, Mastic
Hindi	:	Rumi mastagi, Rumi mastaki, Mastagi
Siddha	:	Ponnuikan, Kungiliyam
Persian	:	Kundur room
Bengali	:	Rumi mastungi
Marathi	:	Ruma mastakee
Guajarati	:	Rumi mastagee



Fig 1: Mastagi plant and resin [*Pistacia lentiscus* Linn]

### 3. Botanical Description

The resin occurs in small, hard, pear shaped, ovoid or nearly globular, sometimes elongated tears, about 2 to 8 mm in diameter [3]. The aromatic ivory coloured resin, also known as mastic, is harvested as a spice from the cultivated mastic trees grown in Greek island, where it is also known by the name 'Chios Tears'. Originally liquid, it is sun dried into drops of hard, brittle, translucent resin, when chewed; the resin softens and becomes bright white and opaque gum [5]. Taste is slightly agreeable [3].

### 4. Mahiyat [Unani morphology]

The drug *Mastagi* is a resin which is also popularly known as "Alakurrome" and is imported from foreign countries. It is more effective and lighter [*lateef*] than *Kundur* [8, 9].

It is of two types:

- **Mastagi ROMI:** It is white, transparent, fragrant, sweet and very soft and sticky. The resin exudes naturally from the bark of the tree. This type is of superior quality. Its shelf life is 20 years.
- **Khubti:** It is black, less transparent, bitter and hard. For commercial purposes, it is obtained by making small vertical incisions in it [7, 8, 10]

### 5. Mizaj [Temperament]

- *Haar* [Hot] 2<sup>0</sup> and *Yabis* [Dry] 2<sup>0</sup> [3, 8, 9]

### 6. Hasase Mustamela [Parts used]

- Resin [1, 11]

### 7. Afa'al [functions according to Unani system of medicine]

- *Mulattif* [demulcent] [11]
- *Muharrrik* [stimulant] [11]
- *Jali* [detergent] [10, 11]
- *Mudire bowl* [diuretic] [11]
- *Habise ishaal* [antidiarrhoeal] [7]
- *Kasire riyah* [carminative] [3, 7, 10, 11]
- *Qabiz* [astringent] [8, 9, 10, 11, 12]
- *Muqawie meda* [stomachic] [3, 7, 8, 11]
- *Muqawie AMA* [intestinal tonic] [8, 10, 11]
- *Muhallil* [resolvent] [8, 12]
- *Muqawie jigar* [liver tonic] [3, 7, 8, 11]

### 8. Istemaal [Uses as per Unani literature]

- *Sue hazm* [indigestion] [10, 11]
- *Fuwaq* [hiccough] [10]
- *Qai* [vomiting] [10]
- *Zaheer* [dysentery]
- *Haiza* [cholera]

- *Darde meda* [stomach ache]
- *Zoafe meda* [weakness of stomach]
- *Zoafe jigar* [weakness of liver]
- *Nafaqah shikam* [flatulence] [3]
- *Zoosantariya aur Sahej AMA* [intestinal erosion] [8]
- *Lissa damiya* [bleeding gums] [8, 11]
- *Sual* [cough]
- *Nafsud dam* [haemoptysis] [8, 10, 11]
- *Amraze Rahim* [uterine diseases]
- *Amraze dimaagh* [CNS diseases] [7-10]

### 9. Afa'al [Functions according to conventional medicine] [1, 2]

- Diuretic
- Astringent
- Stimulant
- Carminative

### 10. Istemaal [Uses according to conventional medicine] [1, 4]

- Leucorrhoea
- Chronic diarrhoea, Constipation
- Dental caries
- Impotency
- Gonorrhoea

### 11. Muzir [Toxicity]

- To *Masana* [bladder] [10, 11] and *Riya* [lungs] [10]

### 12. Musleh [Corrective]

- *Gulaab ke phool*, *gond babool*, [10] *katira*, *qand*, *dhaniya*, [10, 11] *Maghz akhrot*. [11]

### 13. Badal [substitute]

- *Baqula* [*Phaseolus vulgaris*]
- *Kundur* [*Boswellia serrata*]
- *Izkhar* [*Cymbopogon schoenanthus*]. [10, 11]

### 14. Miqdare Khuraq [Dose]

- 3-4 *Masha*/gm. [10]

### 15. Murakkabat [Compound Formulations] [3, 13]

- *Jawarishe mastagi*
- *Jawarishe Jaalinoos*
- *Anushdaroo*
- *Anushdaroo lului*
- *Dawa Ul misk motadil jawahar wala*
- *Itrefile mullaian*
- *Itrefile muqil mullaian*.

## 16. Chemical Composition

The mastic gum contains 2% essential oil. The oil sample from Spain is reported to contain 90% monoterpene hydrocarbons, the major constituents of which are alpha-inene 79% and myrcene 3%. Chief components of the resin triterpenes are mastic acid, isomastic acid, oleanolic acid and tirucalol. The aqueous extract of the aerial parts gave steroid triterpenes, catechin tannins, flavonoids, saponins, resins and sugars.<sup>[1]</sup>

## 17. Pharmacological Activities

- 1. Antioxidant activity:** In this study, the antioxidant potential of the aqueous extract of *Pistacia lentiscus* was, measured by different chemical assays: DPPH radical scavenging activity, H<sub>2</sub>O<sub>2</sub> scavenging activity, ferric reducing antioxidant power [FRAP] assay and total antioxidant assay by phosphomolybdate method. The study concluded that the aqueous extract of *Pistacia lentiscus* contained a high level of phenolic compound and has an effective antioxidant in different assay including DPPH radical, hydrogen peroxide scavenging, reducing power and total antioxidant capacity<sup>[6]</sup>.
- 2. Hepatoprotective activity:** Janakat and Al-merie reported that the aqueous extract of *Pistacia lentiscus* [both boiled and nonboiled] showed marked hepatoprotective activity against CCl<sub>4</sub> by reducing the activity of 3 enzymes Alkaline phosphatase [ALP], Alanine amino transferase [ALT] and Aspartate amino transferase [AST] and the level of bilirubin. Nonboiled aqueous extract was found to be more effective than the boiled<sup>[14]</sup>.
- 3. Wound healing activity:** According to Boulebda *et al*, wound contraction i.e. healing of wound was significantly [P<0.05] enhanced in the presence of *Pistacia lentiscus* L. oil and unsaponifiable oily fraction. It was more pronounced in case of the oily unsaponifiable fraction-treated group of animals, so it is considered as active healing agent. Topical application of the *Pistacia lentiscus* L. fruits fatty oil and its unsaponifiable fraction is helpful in the treatment of wounds<sup>[14]</sup>.

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