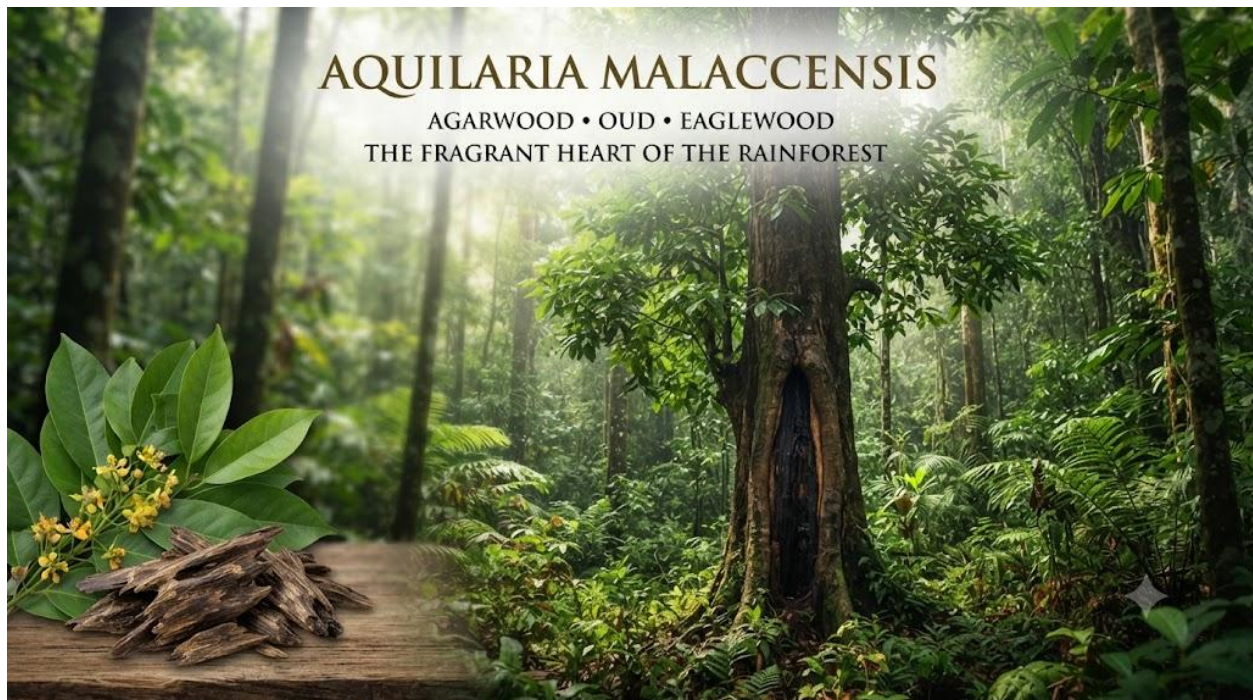


Aquilaria Malaccensis: The Botanical Source of Precious Agarwood



Aquilaria malaccensis is one of the most economically and culturally significant tree species in the tropical forests of Asia. Renowned primarily as a primary source of **agarwood** (also known as aloeswood, gaharu, or oud), this species has captivated traders, perfumers, and artisans for millennia due to the rare, highly aromatic resin it produces.

1. Botanical Overview and Identification

Aquilaria malaccensis belongs to the family **Thymelaeaceae**. It is a large evergreen tree that typically grows in dense lowland and hill rainforests.

- **Height and Trunk:** The tree can reach heights of up to **40 meters** with a trunk diameter of up to **80 centimeters**. The bark is typically smooth to slightly rough, colored pale gray to dark brown, and the inner bark is fibrous and strong.
- **Leaves:** The leaves are alternate, lanceolate to elliptic, measuring about **5 to 16 cm long** and **2 to 6 cm wide**, featuring a distinctive pointed apex and smooth margins.
- **Flowers:** It produces small, yellowish-green or greenish-white fragrant flowers arranged in umbrella-shaped clusters (umbels).
- **Fruits:** The fruit is a woody, capsule-like pod that splits open to release seeds attached to a fleshy appendage.

2. Natural Habitat and Distribution

Aquilaria malaccensis is native to the Indo-Malayan region. Its natural distribution spans several countries in South and Southeast Asia, including:

- **India** (particularly the northeastern states like Assam)
- **Bangladesh**
- **Bhutan**
- **Malaysia** (Peninsular Malaysia and Borneo)
- **Indonesia** (Sumatra, Kalimantan)
- **Myanmar**
- **Thailand**
- **The Philippines**

The species thrives in tropical moist forests, typically at elevations ranging from sea level up to **1,000 meters**, often growing on well-drained soils along slopes and ridge tops.

3. The Agarwood Phenomenon: Nature’s Healing Response

The true value of *Aquilaria malaccensis* lies not in its normal wood, which is pale, soft, and odorless, but in its reaction to stress and infection.

Stage	Description
Healthy Wood	Pale, lightweight, and lacking fragrance; commercially valueless.
Infection & Stress	Triggered by fungal infections (such as <i>Phialophora parasitica</i>), physical damage, or insect boring.
Resin Production	To defend itself, the tree secretes a dense, dark, aromatic resin into the heartwood.
Harvesting	Over years, the resin-infused wood darkens and hardens, creating agarwood or oud .

4. Uses and Cultural Significance

Agarwood derived from *Aquilaria malaccensis* is among the most expensive natural raw materials in the world, often referred to as "liquid gold" or "wood of the gods."

- **Fine Fragrance and Perfumery:** Oud oil is a foundational ingredient in high-end Middle Eastern and Western perfumes, prized for its complex, warm, woody, and balsamic aroma.

- **Traditional Medicine:** In Traditional Chinese Medicine (TCM), Ayurvedic medicine, and Unani systems, agarwood preparations are used to treat digestive disorders, promote Qi (vital energy), relieve pain, and calm the mind.
- **Religious and Cultural Ceremonies:** Agarwood chips and incense are burned extensively in Buddhism, Hinduism, Islam, and Christianity during meditation, prayer, and spiritual rituals across Asia and the Middle East.
- **Art and Carving:** High-grade, dense resinous wood is carved into intricate beads, statues, and decorative artifacts.

5. Conservation Status and Threats

Due to intensive, often illegal harvesting for agarwood, wild populations of *Aquilaria malaccensis* have plummeted drastically across its natural range.

- **CITES Protection:** The entire genus *Aquilaria* is listed under **Appendix II of CITES** (Convention on International Trade in Endangered Species of Wild Fauna and Flora), meaning international trade is strictly regulated to ensure survival in the wild.
- **IUCN Red List:** The species is classified globally as **Critically Endangered** in many assessments due to rampant overexploitation and habitat loss from deforestation.
- **Cultivation and Plantations:** To combat wild poaching, commercial plantations have been established in countries like Vietnam, Thailand, Malaysia, and India. Cultivators now use artificial inoculation techniques (such as chemical or fungal wounding) to stimulate resin production in cultivated trees, helping meet global demand sustainably.