Avicennia marina

Family name: Acanthaceae

Common name: Acanthaceae

Local name: Shorah (الشورة او الشوري)

Wild

Role in Biodiversity

Mangroves are recognized as one of the world's richest ecosystems for many reasons:

- It serves as habitat for many aquatic animals as well as marine and terrestrial organisms, acting both as a source and a reservoir of nutrients and sediments.
- It stabilises shorelines, thereby preventing coastal erosion and reducing the devastating impacts of natural disasters, such as tsunamis.
- It neutralises toxins and heavy metals.
- It regulates salt balances.
- It provides novel natural products especially compounds of medicinal value.

Environment and Growing

Mangrove ecosystems represent an interphase between terrestrial and marine communities occupying coastal areas across a broad range of environmental conditions. *Avicennia marina* is often a pioneer in sandy habitats, but may also invade mud flats. it is tolerant to relatively high salinity, strong winds, and anaerobic soil. It is intolerant of shade and high tidal dinamics.

Growth reqirements:

- Soils pH range 6 to 8.5.
- Mean annual temperature range 17–26°C .
- Annual rainfall range 1000–4500 mm.

Reproduction and Communication

Mangroves are mainly regenerated sexually through seeds and vegetatively through stem and root cuttings.The flowers which are open for 2–5 days, attract short-tongued insects such as bees. The plant shows partial self-compatibility.

Life span

The lifespan of Avicennia marina is over 100 years. Mangroves typically mature in 10–20 years.

Size

Height of *Avicennia marina is* 3 to 10 meters, or up to 14 meters in tropical regions.

Parts

Stems are up to 40cm in diameters with smooth and powdery, yellow-green bark. Young branches are angular with short white hairs.

Edit / Translate

In mature tree the root system of *Avicennia marina* is complicated. It has four types of roots: cable roots, pneumatophores, feeding roots, and anchor roots. Each of them has its own particular growth direction, that is, vertical (both upwards and downwards) and horizontal.

Leaves are opposite, ovate, pale green on the upper surface, gray white on the lower surface, and with salt glands on 2 sides.

Flowes are very small, sessile, 6mm diameter, with 4 petals, fragrant, cream-yellow-orange (turning black), rather fleshy.

Fruits are heart shaped, 1.5-2.5 cm in size, somewhat hairy, mainly pale green and woolly when young, pale yellow when ripe, and splitting into 2 parts to release seeds.

Seeds are usually single, compressed, and enclosed in subglobose capsules.

INTRODUCTION

Tree

Avicennia marina, the grey mangrove, is an evergreen spreading tree species that thrives in high-salinity habitats. It is distributed along Africa's east coast, south-west, south and south-east Asia, Australia, and northern parts of New Zealand. It is one of the few mangroves found in the arid regions of the coastal Arabian Peninsula as well as in similar environments on both side of the Red Sea. In its habitats, *Avicennia marina* is found in areas along sheltered coastlines, shallow-water, lagoons, estuaries, rivers and deltas, mainly on soft substrates. The plant is characterized by dense foliage, rounded crown and dense, pencil-like breathing roots. It is a multipurpose tree mainly used as source of tannins and timber.

In Sudan, the major stands of *Avicennia marina* are found along the Red Sea Coast mainly in Mohammed Qol, Arakiyai, Halut, Kilo Tammania, Klanieb, Mersa Atta, Adofab, Lagagengeeb, Fagum, Haydob, Sheikh Ibrahim, Tekranyai, Sheikh Saad and Ashat. Minor stands are also present at Halaib, Mukawwar Island and Agig. Mangroves are very important to the livelihoods of local fishing communities, as they provide a habitat for many species of fish. The plant is also reported to have medicinal values.

LIVELIHOODS / CULTURE

Cultivation

Avicennia marina is naturally regenerated in Sudan. Seeds, which are partly germinate (vivipary) whilst still attached to the tree, are dropped by each tree. They float and are carried by the tides. Seeds can quickly establish themselves once they have settled into a favourable location.

Cultural Value

In Sudan, *Avicennia marina* trees are very important for the livelihoods of rural and local communities that depend on fishing and shellfish farming. These traditional activities, which is directly connected to the mangroves habitats, are an important source of income for many local people, especially in the areas of Dangunab and Mohamed Goul.

The leaf extract is used to treat gingivitis and liver diseases by most of the people of the Red Sea region.

Cultural Expressions

Information not available

THREATS

Although there are overall range declines in many areas, *Avicennia marina* is currently classified as 'Least Concern' in the IUCN Red List of Threatened Species(2011).

However, this plant has suffer badly from local threats. In Sudan the current threats facing mangrove environments are:

- The loss of habitat throughout its range primarily due to extraction and coastal development.
- Changes in climate due to global warming will further affect these parts of the plant range.
- The shrimp farms and the related mass discharge planned at Halut.
- Camel grazing is heavy and widespread in the mangrove stands over the country, affecting tree's height and health.
- High mortality of the seeds due to being consumed by crabs and being carried to unsuitable locations.

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