

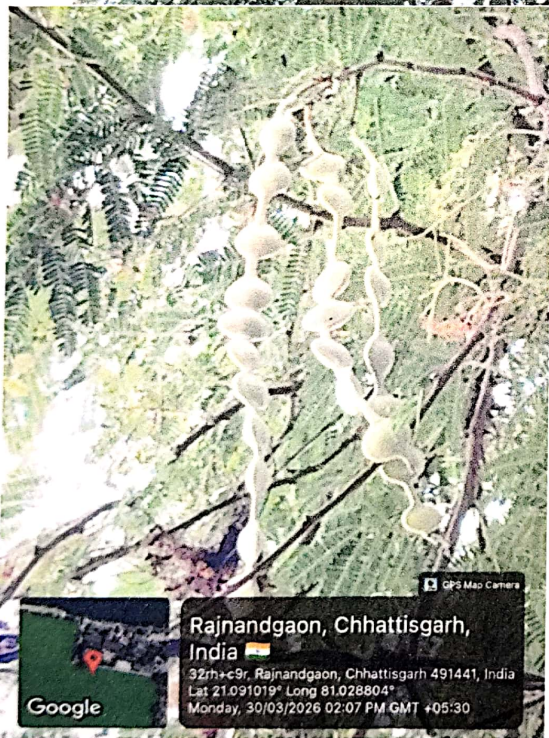
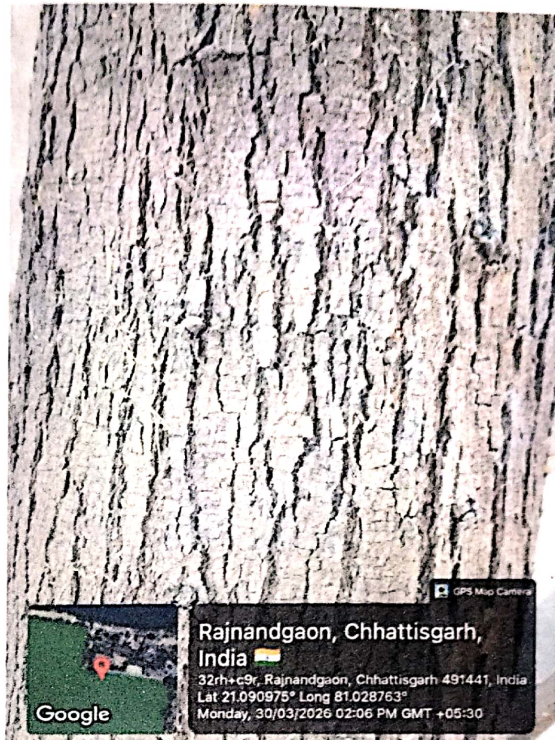
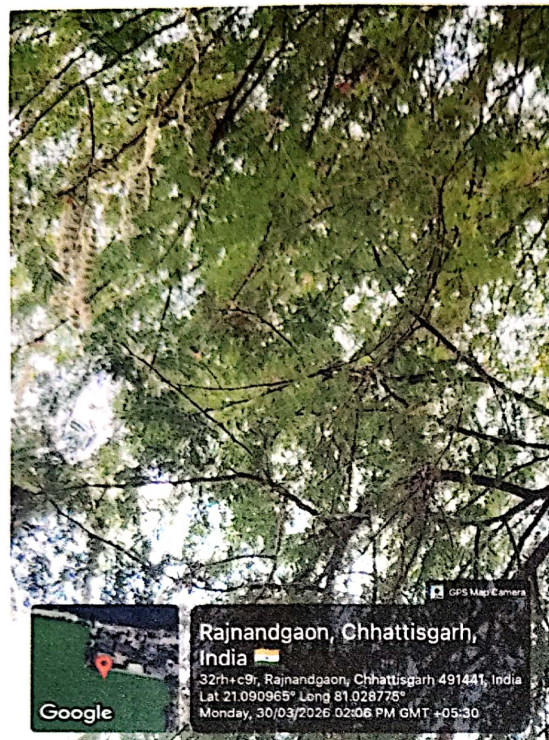


Figure 1: *Acacia nilotica* (leaves, bark, fruit and tree)

Q. 1
30/03/2026

Taxonomic Classification

- **Kingdom:** Plantae
- **Subkingdom:** Tracheobionta (Vascular plants)
- **Superdivision:** Spermatophyta (Seed plants)

- **Division:** Magnoliophyta (Angiosperms / Flowering plants)
- **Class:** Magnoliopsida (Dicotyledons)
- **Order:** Fabales
- **Family:** Fabaceae (Leguminosae)
- **Subfamily:** Mimosoideae
- **Genus:** Acacia
- **Species:** nilotica

Distribution

Acacia nilotica is widely distributed in tropical and subtropical regions of Africa, the Indian subcontinent, and the Middle East. In India, it is commonly found in arid and semi-arid regions, including plains, dry forests, and grasslands. The species is also planted along roadsides, farmlands, and wastelands for shade and soil improvement. It thrives naturally in riverbanks and degraded lands, showing high adaptability to harsh environmental conditions and playing a significant ecological role.

Climate and Soil

Acacia nilotica grows well in hot tropical and subtropical climates, tolerating temperatures up to 50°C. It is highly drought-resistant and thrives in areas receiving 250–1000 mm annual rainfall. The plant prefers well-drained sandy, loamy, or clay soils but can tolerate saline and alkaline conditions. It grows in poor and degraded soils due to its nitrogen-fixing ability. However, it is sensitive to severe frost, especially during the early stages of growth and establishment.

Flowering and Fruiting

Acacia nilotica typically flowers from June to September, producing bright yellow, fragrant, globular flower heads. These flowers attract pollinators, especially insects. Fruiting occurs from October to March, forming flat, constricted pods containing multiple seeds. The pods are initially green, turning dark brown or black upon maturity. Seeds are hard-coated and show dormancy. The flowering and fruiting periods may vary slightly depending on climatic conditions, geographical location, and environmental factors influencing plant growth cycles.

Utilization

Acacia nilotica has diverse uses in medicine, agriculture, and industry. Its bark, pods, and leaves possess antimicrobial, anti-inflammatory, and astringent properties, widely used in traditional medicine. The tree produces gum arabic, used in pharmaceuticals and food industries. Its wood serves as fuel and for making tools. Leaves are valuable fodder for livestock. Additionally, it is used in afforestation, soil conservation, and as a natural nitrogen fixer, improving soil fertility and ecosystem sustainability.

Verified and authenticated by



Dr. Trilok Kumar

Assistant Professor
Asst. Professor, Dept. of Botany
Govt. Digvijay P.G. College
Rajnandgaon (C.G.)

Govt. Digvijay Autonomous Postgraduate College,

Rajnandgaon, Chhattisgarh, India