BLDEA's
SSM College of Pharmacy and Research Centre,
VIAJAYAPUR-586103,

Acacia,

Acacia, (genus *Acacia*), genus of about 160 species of trees and shrubs in the pea family (Fabaceae). Acacias are native to tropical and subtropical regions of the world, particularly Australia (where they are called wattles) and Africa, where they are well-known landmarks on the veld and savanna.

Physical Description

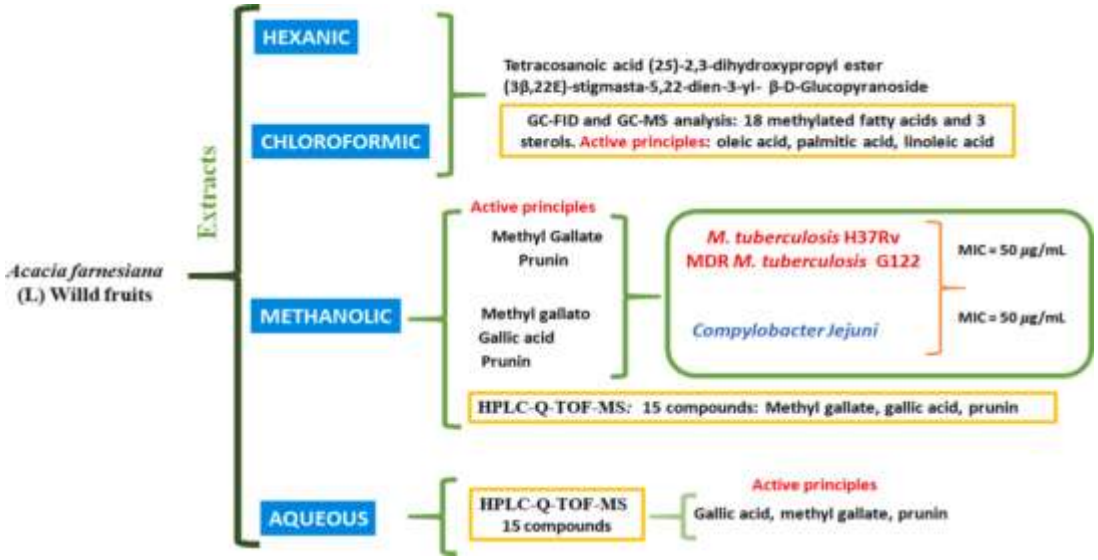
Acacias' distinctive leaves take the form of small finely divided leaflets that give the leafstalk a feathery or fernlike (i.e., pinnate) appearance. In

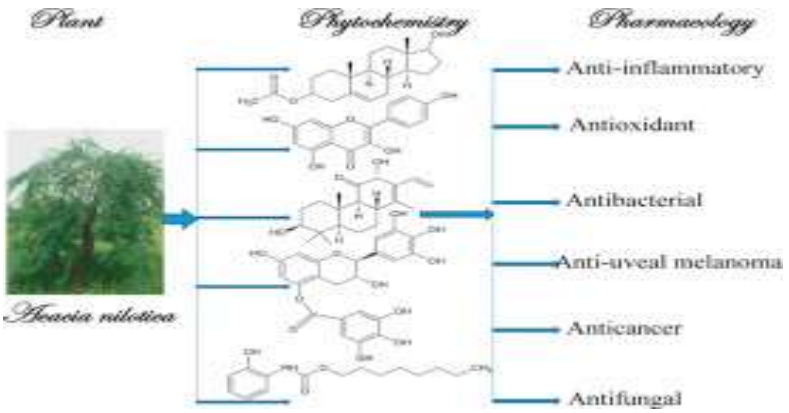
many Australian and Pacific species, the leaflets are suppressed or absent altogether, and the leafstalks (petioles) are flattened and perform the physiological functions of leaves. The leafstalks may be vertically arranged and bear thorns or sharp curved prickles at their base. Acacias are also distinguished by their small, often fragrant flowers, which are arranged in compact globular or cylindrical clusters. The flowers are usually yellow but occasionally white and have many stamens apiece, giving each one a fuzzy appearance. The fruits are legumes and are highly variable in appearance, depending on the species. Acacias are often confused with members of the closely related genus *Mimosa*.

Several acacia species are important economically. Gum acacia (*Acacia senegal*), native to the Sudan region in Africa, yields true gum arabic, a

substance used in adhesives, pharmaceuticals, inks, confections, and other products. The bark of most acacias is rich in tannin, which is used in tanning and in dyes, inks, pharmaceuticals, and other products. Several Australian acacias are valuable sources of tannin, among them the golden wattle (*A. pycnantha*), the green wattle (*A. decurrens*), and the silver wattle (*A. dealbata*). A few species produce valuable timber, among them the Australian blackwood (*A. melanoxylon*); the yarran (*A. omalophylla*), also of Australia; and *A. koa* of Hawaii. Many of the Australian acacia species have been widely introduced elsewhere as cultivated small trees valued for their spectacular floral displays.

The chemical composition of the essential oil and the absolute of five populations of Acacia farnesiana, cultivated in Greece, have been investigated. The saturated hydrocarbons tricosane, nonadecane and heneicosane, along with methyl salicylate, characterized the chemical analysis of the essential oils and the absolutes, while hexadecanoic acid and α-amyrine were important constituents of some absolutes.


Acacia farnesiana
(L.) Willd fruits
Extracts
HEXANIC
CHLOROFORMIC
Tetracosanoic acid (2S)-2,3-dihydroxypropyl ester
(3β,22E)-stigmasta-5,22-dien-3-yl- β-D-Glucopyranoside
GC-FID and GC-MS analysis: 18 methylated fatty acids and 3 sterols. Active principles: oleic acid, palmitic acid, linoleic acid
METHANOLIC
Active principles
Methyl Gallate
Prunin
Methyl gallato
Gallic acid
Prunin
M. tuberculosis H37Rv
MDR M. tuberculosis G122
MIC = 50 µg/mL
Compylobacter Jejuni
MIC = 50 µg/mL
HPLC-Q-TOF-MS: 15 compounds: Methyl gallate, gallic acid, prunin
AQUEOUS
HPLC-Q-TOF-MS
15 compounds
Active principles
Gallic acid, methyl gallate, prunin


Plant
Phytochemistry
Pharmacology
Acacia nilotica
Anti-inflammatory
Antioxidant
Antibacterial
Anti-uveal melanoma
Anticancer
Antifungal