

# THE IDENTIFICATION OF AUSTRALIAN WATTLES (ACACIAS) INTRODUCED INTO CEYLON

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Out of several hundred Acacias indigenous to Australia, a number amounting to over a dozen have at some time or other been introduced into the Ceylon highlands, partly as ornamental shrubs but more often as likely shade trees in tea. The Acacias as a whole are easily hybridised, especially within the more closely allied groups, so it is more than likely that local hybrids have already been produced amongst the naturally regenerated crops of Acacia now well established in the jungle fringes of Hakgala and the Nuwara Eliya golf course, and in the shrubby wild lands adjoining old established tea estates.

As a means of identification, the following key may be of some interest and value to planters whose land is 4500 ft. and upwards above sea level, as this is the level at which the Australian wattles are commonly established.

The genus as a whole is subdivided into 6 sections, the first 5 of which may carry two kinds of leaf *i.e.*, (a) normal leaflets, usually minute and in rows on comb-like pinnæ or leaf-stalks, and (b) reduced leaves or *phyllodes* usually taking the form of a strap-like leathery leaf 1 to 6 inches long. The phyllode may have normal leaflets at its tip because it is really a branch. The sixth section has no phyllodes and only normal divided leaflets. Thus we have :—

- (i) Pungentes, pungent bushes with reduced leaves.
- (ii) Calamiformes, rigid bushes.
- (iii) Uninerves, phyllode flattened, leaflike, with a single nerve, flowers in globose heads.
- (iv) Plurinerves, phyllode flattened, leaflike with more than one nerve, flowers in globose heads.
- (v) Julifloræ, phyllode leaflike, flowers in cylindrical spikes.
- (vi) Bipinnatæ, no phyllodes but only bipinnately divided leaflets on normal leaf-stalks, flower heads in axillary racemes but the upper ones forming an open spray or panicle.

This last group includes the three commonest wattles, (*decurrens*, *mollissima*, and *dealbata*) which form the backbone of the South African wattle bark industry. It also includes the indigenous dry zone or Ceylon low-country thorn trees which are described in Lewis' "Vegetable Products of Ceylon", so these are not repeated here.

## Section I Pungentes.

(1) *Acacia juniperina*, a juniper-like rigid shrub with a pungent smell, phyllodes spreading with prickly point and articulate on branches (joint reversible), small yellow flowers on  $\frac{1}{2}$ " stalk, pod falcate,  $2" \times 1/8"$ , constricted between seeds to form a wavy edge.

**Section II Calamiformes.** None in Ceylon.

**Section III Uninerves.** Phyllodes leaflike with single main vein.

(2) *Acacia falcata*, angular branches, glabrous (shiny) foliage, phyllodes falcate or sword shaped, 3 to 6", with an obscure marginal gland near the base, flowers 20 in a head, pod narrow.

(3) *Acacia pycnantha*, "broad leaved golden wattle", similar to *A. falcata* but marginal gland large and near base of leaf, yellow flowers numerous, pod narrow, same width throughout.

(4) *Acacia podalyriaefolia*, "large leaved silver wattle" or "glaucous acacia"; mucronate ovate broad leaf  $1\frac{1}{2}$ "  $\times$   $\frac{1}{2}$ ", very waxy glaucous grey, flowers golden yellow, much longer sprays than the leaves, pod  $\frac{3}{8}$ " broad. Flowers profusely at 4000-5000 ft.

(5) *Acacia cultriformis*, "knife-leaved acacia", like *podalyriaefolia* but only a large bush, phyllodes slightly smaller, triangular-falcate in shape with thickened margin and a marginal gland and terminal prickle, flowers 10 to 20 in a head, pale yellow, twice a year.

**Section IV Plurinerves.** Phyllodes large with several parallel veins, flower heads solitary or few on a stalk.

(6) *Acacia melanoxylon*, "blackwood", a tall tree, phyllode 2 to 4 inches long with 3 or more longitudinal veins, narrowed to base, flowers 30 to 50 in a compact pom-pom  $1/6$ ", lemon cream in colour, pod flat  $1/3$ " broad, coiled; true leaves when present are on 2-3 pairs of  $1\frac{1}{2}$ " pinnae each bearing 10-20 pairs of minute leaflets distinctly spaced, leaflets develop from tip of leaflike phyllode. Common in gardens around 6000 feet.

**Section V Juliflorae.** Flowers in elongated spikes like willow catkin.

(7) *Acacia verticillata*, "whorl-leaved acacia". A bush with rigid branches and phyllodes in whorls of 3 to 6, pungent  $\frac{1}{2}$ " pointed, awl-shaped, flowers a dense spike on a short stalk, pod 2" slender.

(8) *Acacia longifolia*, "white sallow", small tree with large phyllodes 3" to 6", oblong with a dense pattern of crossing veins between 3 and 5 main nerves, young branches shiny, angular, not pungent; flower a bright yellow spike 2" like a willow catkin, pod 3" to 6" long with a wavy margin between 6 to 12 isolated seeds, flowers twice a year. MacMillan page 169 gives "Sydney Golden Wattle", but "white sallow" seems a better name. Moray Estate, 4600 ft, unsatisfactory for lopping.

(9) *Acacia linearis*, phyllodes 6" straplike with one prominent vein, flower spike loose, 1" to 2" long, yellow, pod linear-cylindric.

**Section VI Bipinnatae.** No phyllodes, only normal foliage in rows of very small leaflets. Flowers in globular heads.

(10) *Acacia elata*, "mountain hickory" of New South Wales, where it is a tall tree; seeding round Hakgala. Leaves 8" to 12" divided into 4 pairs of pinnae, each with about 14 pairs of  $1\frac{1}{2}$ " leaflets, ovate, pointed, flowers pale yellow, pod 3"  $\times$   $3/8$ " with 8 seeds, each separated in the straplike pod seeds with lentical markings. Nuwara Eliya Racecourse and Liddesdale.

(11) *Acacia pruinosa*, leaflets  $\frac{1}{2}$ " long, 25 pairs on 2 to 4 pairs of pinnae, each with a prominent gland on the stalk halfway from the base to the first pair of pinnae, flowers sulphur-primrose, pods 3"  $\times$   $3/8$ ".

(12) *Acacia baileyana*, small tree of limited occurrence in New South Wales, leaflets 17 to 20 pairs, minute, crowded on 2 to 4 pairs of short pinnae with a cup-shaped gland between each pair of pinnae, flowers yellow in long sprays, pod 3" with 10 small seeds. Not located so far.

(13) *Acacia farnesiana*, "the Fragrant Acacia", heavily scented bush with many branches from base, stipules at base of leaf form paired spines, pinnae 4 to 6 pairs with leaflets 10 to 20 pairs, 1/5" long, pods thick, spindle shaped, 2" to 3" long with seeds embedded in pith.

(14) *Acacia decurrens*, "the green or feathery wattle", leaflets distant, very small, elongated, 1/5", base of main leaf-stalk decurrent, i.e., forming a ridge on the twig below its junction; flowers bright yellow; pod straight, constricted between seeds, seed tick-like with a yellow tip. Has seeded freely on Ohiya Forest Department plantations.

(15) *Acacia mollissima*, "the black wattle", leaflets minute crowded, with 50 pairs on each of about 14 pairs of pinnae, flowers dirty cream, pod flat, narrow, constricted deeply between seeds, young foliage yellowish, but greyish when old. MacMillan on page 171 gives this as *A. decurrens* var *mollissima*, but is now has specific rank.

In spite of the Australian botanists' insistence upon the separate entities of *Acacia decurrens* and *mollissima*, we have not succeeded so far in finding any satisfactory points for differentiation. The form which we take to be *decurrens* regenerates freely in forest and even in mana grass in Uva and other fairly dry hill climates over 5,000 feet.

(16) *Acacia dealbata*, "the silver wattle" (a separate entity though a variety of *decurrens*), leaflets 1/8" in 25 to 30 pairs on about 16 pairs of 1 1/2" long pinnae, flowers chrome yellow, fragrant, flat pod *not* constricted between seeds, red inside with seeds widely spaced, young foliage white, heavy sucker regeneration from cut stumps, flowers twice a year. Ohiya and Kandapolla.

Notes on cultivation and propagation are given in MacMillan's "Tropical Planting and Gardening". As the Tea Research Institute is interested in wattles as possible alternative hosts for fungus pathogens any notes on location, or specimens for identification, should be forwarded to Mr. B. N. Webster at the Tea Research Institute.