

A GUIDE TO EAST AFRICA'S COMMON ACACIAS

By JOHN SELDON, M.A. (CANTAB.)

I. Flowers in spikes or spiciform racemes

- A. PODS FLAT, DEHISCENT, not twisted.
 B. PODS OBLONG, BLUNTLY POINTED
 C. *Flowers shortly-pedicellate.* Pods reticulate.
 1½ to 2 in. long; about ¼ in. broad, unequal at base.

A. mellifera



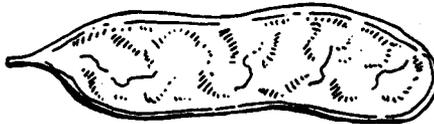
- CC. *Flowers sessile or sub-sessile.* Pods papery, sandy brown 1½ to 4 in. long; ¾ to 1 in. broad; reticulate, sometimes constricted—due to abortion of some seeds.

A. senegal



- BB. PODS OVATE to BROADLY OBLONG, SLIGHTLY CURVED, OBTUSE. They are also glabrous, coriaceous and shining brown 1½ to 2 in. long; ½ to 1¼ in. broad.

A. lahai



- BBB. PODS BROADLY, FLAT, POINTED. These nearly straight pods are persistent, 4 to 6 in. long; ½ to ¾ in. wide.

A. polyacantha subsp. *campylacantha*



A simple key to a mere 15 of the commonest species of Acacia likely to be encountered by field-workers or schoolchildren in East Africa. There are 67 indigenous species in all.

Flowers white. A bushy plant with paired recurved thorns; 2 to 3 pinnae; leaflets 1 to 2 pairs. Bark cooked with meat and used as a stimulant. Gregarious in thornbush country. The 'Wait-a-bit' thorn.

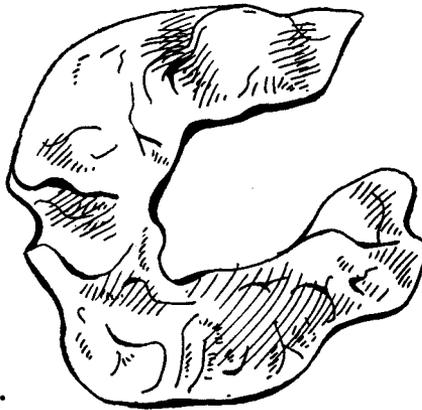
Flowers white or pale yellow. A flat-topped tree, when mature; 3 to 10 pinnae; leaflets 10 to 15 pairs. Prickles in threes, near the nodes, the central one hooked or solitary. The leaves are small, olive-green in colour and shorter than the inflorescence spikes. Bark grey, rough. The main source of 'gum arabic'. Wide distribution in thornbush. The 'Sudan gum arabic tree'.

Flowers white, opening from red buds. A flat-topped tree up to 50 ft.; 6 to 13 pinnae; leaflets 12 to 20 pairs. Stipules spinescent. Bark grey-brown, fibrous. Very hard durable red wood. The characteristic high-altitude (6-7,000 ft.) species of Acacia, often growing in pure societies below evergreen forest. The 'Red thorn'.

Flowers white. Quick growing flat-topped tree up to 40-50 ft.; 15 to 32 pinnae; leaflets 10 to 40 pairs. Spines in pairs, recurved decurrent with bases, brown with black tips—giving rise to the name 'Falcon's Claw Acacia'. (Rarely, however, these prickles are absent.) Bark ash-grey to pale yellow, rough, with yellow-brown scales. Heartwood is impregnated with resin making a more durable, termite-resistant building material than in most Acacias. A gregarious tree on damp ground, e.g. vleis and swamps. The 'Stink-bark Acacia' is a common name for this tree.

AA. PODS THICK, INDEHISCENT, TWISTED. Contorted and falcate, or spirally twisted. Yellow-brown.

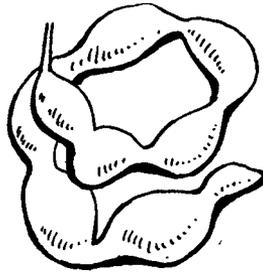
A. albida



II. Flowers in globose heads.

D. PODS SPIRALLY TWISTED. ± pubescent; yellow-brown.

A. tortilis subsp. *spirocarpa*



DD. PODS NOT TWISTED.

E. PODS INDEHISCENT, FAT.

F. Pods sinuate, with slightly thickened margin, also stipitate, pubescent; 2½ to 4½ in. long; ½ to ¾ in. wide.

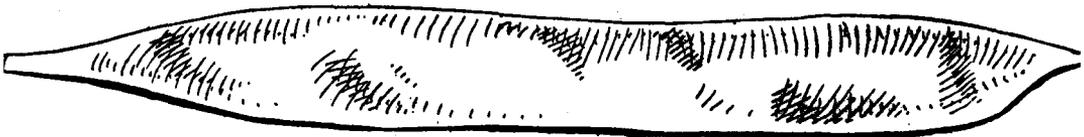
A. nilotica subsp. *subalata*



FF. Pods not sinuate, nor marginate.

G. Pods and corolla glabrous. Pods brown, linear oblong 4 to 8 in. long; ¾ to 1 in. broad and ½ in. thick; straight or slightly curved; stipitate.

A. sieberiana



Flowers white or cream. Large tree with rounded crown; 3 to 8 pinnae; leaflets 9 to 16 pairs. Stipules usually spinescent. Bark rough, grey brown. The pods are a useful fodder. Groves of these trees are often an indicator of underground water supplies. Locally common on alluvium in T.T. Strange shapes of pods give rise to the name 'Apple-ring Acacia'. Heartwood soft and easy to work; seasons well.

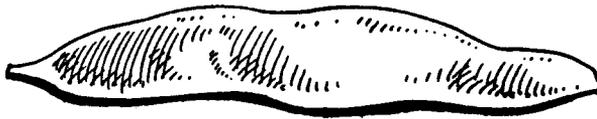
Flowers white or pale yellow, usually in small globose heads. Flat-topped or umbrella-shaped tree up to 45 ft. with interlaced boughs, spreading horizontally; 4 to 10 pinnae; leaflets 7 to 15 pairs. Bark rough; branches red-brown, pubescent. Spines small and hooked, or long and straight, up to 3 in.—often both types on same branchlet. Rich alluvial soils in thornbush country; gregarious. The 'Umbrella Acacia'.

Flowers yellow, scented. Shrub or small tree up to 20 ft.; 3 to 10 pinnae; leaflets 12 to 28 pairs. Bark dark brown to black, not flaking but cracking to show a rust-red layer. Spines slender and straight, directed downwards and outwards. Widespread in dry savanna. The bark and roots yield a decoction with intoxicating properties; a stimulant of strength and courage for Masai youths! Bark and pods also have a high tannin content; the poles are durable.

Flowers white or cream, fragrant; peduncles clustered at the nodes. Flat-topped tree up to 50 ft. with almost glabrous twigs; 9 to 20 pinnae; leaflets 20 to 40 pairs. Spines round, straight, strong up to 4 in.; often absent from branches and branchlets. Bark scaling to show a yellow surface. Tree of savanna and grassland near rivers. Common in T.T. and Uganda; rare in Kenya. Yields a clear gum of good quality.

GG. *Pods and corolla ± densely pubescent. Pods sausage-shaped; 4 in. long, ¾ in. broad*

A. stuhlmannii



EE. PODS DEHISCENT, THIN.

H. *Prickles scattered along the internodes not grouped at or near the nodes. Pods oblong up to 6 in. long and ¾ to 1½ in. broad, walls papery.*

A. brevispica



HH. *Prickles or spines grouped at or near the nodes.*

J. *Spines not ant-galled.*

K. *Pods long, linear, falcate; glabrous when mature; seeds somewhat conspicuous in the pod. Pods up to 4 in. long and ¼ in. broad, dehiscing on the tree; shortly stipitate.*

A. seyal



KK. *Pods flat, narrow and slightly curved, with distinct slender stipe; 2 to 3 in. long, up to ½ in. wide; margins keeled, often sinuate.*

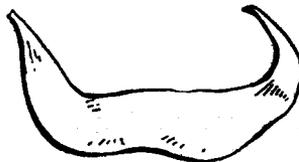
A. xanthophloea



JJ. *Spines ant-galled.*

K. *Pods short, falcate, attenuate at both ends; about 2 in. long, ½ in. wide; shortly puberulous. Ant galls ± round or ovoid.*

A. drepanolobium



Flowers white. Small tree up to 8 ft. high with short bole and radial branching; 6 to 14 pinnae; leaflets 9 to 20 pairs. Young shoots with spreading soft golden hairs; older branches densely hairy, grey, brown or blackish. Thornbush country and margins of mangrove swamps; an indicator of saline soils; locally common.

Flowers white or yellowish white. Shrub or small tree, often semi-scandent and forming coppice. No ant galls; 6 to 18 pinnae; leaflets numerous. Easily recognised by its numerous slightly curved scattered prickles. Somewhat like *Mimosa pigra*, except for the pink flowers and curved hairy lomentose pods of the latter. Widespread in East African bushland, thickets and scrub. Was once referred to as *A. pennata*. Sometimes called the 'Pinnate Acacia'.

Flowers bright yellow; peduncles on elongate lateral or terminal shoots of the current season. Shrub or small tree up to 50 ft.; loosely branched; 1 to 9 pinnae; leaflets 8 to 20 pairs. Bark green-brown, or orange; powdery. Not to be confused with the papery-barked shrubby *A. hockii*, which was once referred to as *A. seyal* var. *multijuga*. Gregarious on alluvium of river courses. The so-called 'Fever Thorn'. Yields an edible gum but inferior to that from *A. senegal*.

Flowers pinkish white or yellow; peduncles on short scaly lateral shoots. Tall flat-topped tree up to 60 ft.; 5 to 10 pinnae; leaflets 15 to 20 pairs. Bark sulphur or greenish-yellow; powdery, but not rubbing off easily. Spines very short. The so-called 'Fever Tree.'

Flowers white. Tree or shrub of variable habit up to 25 ft. high; 5 to 9 pinnae; leaflets 12 to 20 pairs. Bark not peeling. Masai plains and widespread elsewhere, though absent from the coast and the southern provinces of T.T. N.b. Myrmecophily and hence the 'Whistling Thorn' name.

KK. *Pods long, linear, falcate; glabrous; 3 to 4 in. long, about ¼ in. wide. Ant galls ± bi-lobed.*

A. zanzibarica



KKK. *Pods long linear, falcate; similar to a typical A. seyal. i.e. seeds somewhat constricted in the pod, glabrous when mature. Pods from 4 to 7½ in. and not more than ¼ in. wide. Ant galls ± bi-lobed.*

A. seyal var. *fistula*

Glossary of Botanical Terms used in this Key

(Based on that printed for *The Flora of West Tropical Africa*)

ATTENUATE:	Drawn out to a point.
CORIACEOUS:	Leathery in appearance or texture.
DECURRENT: (or Recurrent)	Running back down the main stem or petiole.
DEHISCENT:	Splitting open spontaneously when ripe.
FALCATE:	Curved like a scythe or sickle.
GLABROUS:	Smooth, devoid of hairs.
HEAD:	Flower stalks, or pedicels, arising from the same point on the inflorescence axis.
INFLORESCENCE:	A collection of flowers; their arrangement.
KEELED:	Ridged along the middle of a flat or convex surface.
LINEAR:	Long and narrow with parallel edges.
MARGINATE:	Having a conspicuous flattened or raised edge.
MYRMECOPHILY:	A supposedly symbiotic relationship (living together for mutual benefit) between ants and the plant.
OVATE:	Egg-shaped with the broader end below the middle.
PEDICEL:	The stalk of an individual flower in an inflorescence.
PETIOLE:	The stalk of a leaf.
PINNA:	A primary division of a pinnate leaf, i.e. a compound leaf with leaflets arranged on either side of a common rachis; such leaflets are often called <i>pinnules</i> , but not in this key.
PRICKLE:	A sharp outgrowth of the bark, detachable without tearing the wood.
PUBERULOUS:	Shortly pubescent.
PUBESCENT:	Covered with short soft hairs.
RACEME:	An inflorescence in which the flowers are borne on pedicels along an individual axis, or <i>peduncle</i> .
RETICULATE:	Having a net venation, i.e. when the veins form a network pattern.
SESSILE:	Without a stalk.
SINUATE:	Having an uneven margin with somewhat deep undulations.
SPIKE:	A racemose type of inflorescence with the flowers sessile on a simple undivided axis or <i>rachis</i> .
SPINE:	A sharp-pointed hardened structure, usually a branch, but sometimes a stipule, petiole, etc.
STIPITATE:	Supported on a special stalk or <i>stipe</i> : in the case of Acacia pods this stipe is between the remains of the calyx and the wider part of the fruit itself.
STIPULE:	Leaf-like or scale-like appendages of a leaf, usually at the base of the petiole.
THORN:	Sometimes used (but not in this key) as a term for a pointed stiff outgrowth: in origin it can be epidermal, but usually it refers to an aborted or modified branch, leaf, leaflet or stipule.

References:

1. *Flora of Tropical East Africa*. Leguminosae sub-family Mimosoideae, by J. P. M. Brenan. Published by the Crown Agents. Available from the Government Printer, Nairobi. Shs. 12.00.
2. *Kew Bulletin*. Tropical African Plants and Notes on Mimosoideae, by J. P. M. Brenan. 1950-55.

Flowers yellow. Tree up to 25 ft. high; 1 to 6 pinnae; leaflets rather large, in 3 to 10 pairs. Bark yellow-orange and powdery. The 'Whistling thorn' which takes the place of *A. drepanolobium* in coastal areas, where it is gregarious on poorly drained soils.

As for *A. seyal* BUT spines often swollen at the base into grey or whitish ant galls, sometimes with reddish-brown markings. Common on black flooded soils throughout T.T.; widespread but less common in Kenya; also in Uganda.

Exotic Species of Acacia

Most of the common species of Acacia in cultivation are natives of Australia.

The following three species all have flowers in round heads and also, in adult specimens, the leaves have been replaced by *phyllodes*. The latter are green, flattened petioles, modified for photosynthesis, perhaps as an adaptation to xerophytic conditions. In juvenile specimens all stages of transition from the ancestral pinnate compound leaf form to the phyllode type can usually be found.

Phyllodes with one main longitudinal nerve.

Phyllodes elliptic, pubescent 1. *A. podalyriifolia*.

Phyllodes oblong-lanceolate, falcate, glabrous 2. *A. pycnantha*.

Phyllodes with 2 to 7 or more main longitudinal nerves 3. *A. melanoxylon*.

But the fourth common species has the normal bipinnate leaf

4. *A. mearnsii*.

1. *A. podalyriifolia*. A very common small tree in gardens; a so-called 'Golden Wattle'. Numerous small heads of yellow flowers arranged in racemes; pods flat and somewhat twisted.

2. *A. pycnantha*. Another 'Golden' or 'Broad-leaved Wattle'; a small tree with rather pendulous habit and glabrous twigs. Flowers in golden yellow heads arranged in racemes; pods glabrous, linear, obtuse, somewhat constricted between the seeds.

3. *A. melanoxylon*. A medium-sized, much-branched evergreen tree. Flowers in very small heads, yellow or cream, and arranged in racemes; pods twisted. This is the Australian 'Blackwood'.

4. *A. mearnsii auct. mollissima*. A quite large, much-branched tree with pubescent twigs and foliage. The leaflets are very small and numerous. Flowers in pale yellow heads arranged in panicles or racemes; pods linear, narrow, constricted between the seeds. This is the 'Black Wattle' of plantations; its bark is used for tanning and its wood for fuel. It is also a 'shade' tree, although very little will grow beneath it.

There are some seventeen other introduced species of Acacia; for these see the key to exotic species in *The Flora of Tropical East Africa*, pp. 49 to 53.

In making this selection of the more common Acacias of East Africa the writer has had access to the pressed specimens in the East African Herbarium (behind the Coryndon Museum). He has also had the patient assistance of Dr. P. J. Greenway and the staff of the Herbarium.