

# Annotated list of seed plants of Singapore (III)\*

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## II. Angiosperms-Dicotyledons (continued)

### 19. CAPPARIDACEAE

Key to the genera

- |   |                 |
|---|-----------------|
| A. Leaves simple; scandent shrub; fruit a many-seeded berry | <i>Capparis</i> |
| A. Leaves palmately divided or compound.                    |                 |
| B. Herbs; fruit cylindric, dry                              | <i>Cleome</i>   |
| B. Erect trees; fruit globose, fleshy                       | <i>Crataeva</i> |

#### *Capparis micracantha* DC.

Shrub, scandent; consisting of two forms: the wild form, ssp. *korthalsiana* (Miq.) Jacobs, with 60–100 stamens per flower was once collected from Changi (Ridley 4418) and Bukit Timah, called *C. finlaysoniana* Wall. in Ridley's Flora; the cultivated form, ssp. *micracantha*, with 20–35 stamens per flower, is occasionally planted in gardens. Vern. *Jambol merah*.

#### *Cleome aculeata* Linn.

Herb, often with stipular thorns; flowers white to cream; stamens 6; ovary on a short stalk; weed, of tropical American origin.

#### *Cl. gynandra* Linn.

Tall herb, often cultivated in gardens; flowers white; stamens and ovary both elevated by a long stalk (androgynophore); also called *Gynandropsis pentaphylla* DC. Native of Tropical America.

#### *Cl. rutidosperma* DC.

Herb; flowers violet-blue to pink; stamens 6; seeds with an open cleft; weed, of African origin.

#### *Cl. speciosa* Rafin.

Tall herb, often growing in gardens as an ornament; flowers pink; stamens and ovary both elevated by a long stalk; native of trop. America. 醉蝶花。

#### *Cl. viscosa* Linn.

Herb; flowers bright yellow; stamens 10–20; ovary sessile; weed, pantropical.

#### *Crataeva religiosa* Forst. f.

Small tree, occasionally planted in gardens; leaves 3-foliolate; flowers creamy yellow; native of Malaya and Tropical Asia. Vern. *Cadat*. 魚木。

\* continued from *Gdns' Bull. Sing.* 27:83.

## 20. CRUCIFERAE

## Key to the genera

- A. Flowers white or purplish.  
 B. Erect herbs; petals 1.5–2 cm long *Raphanus*  
 B. Creeping or floating herbs; petals less than 7 mm long *Nasturtium*
- A. Flowers brightly yellow.  
 C. Garden vegetables; petals over 0.5 cm long; disc-glands 4 *Brassica*  
 C. Weeds; petals less than 0.5 cm long; disc-glands 6 *Rorippa*

*Brassica\* alboglabra* Bailey

Kai Lan or Chinese kale; native of S. China; growing locally from the imported seeds. 芥藍。

*Bras. chinensis* Jusl.

Pak Choy or Chinese white cabbage; prob. native of S. China; one of the commonest vegetables in markets; growing locally and also imported; many varieties, including; Pak Choy (var. *chinensis* 白菜), Choy Sam (var. *parachinensis* 菜心), etc.

*Bras. juncea* Czern. & Coss.

Kai Choy or mustard cabbages; native of subtropical Asia; mostly imported; several varieties, including the crisp leaved (var. *crispa*) and the broad-leaved (var. *rugosa*) and others. 芥菜。

*Bras. oleracea* L.

The cabbages; native of S. Europe; almost all imported; several varieties, including cabbages (var. *capitata* 椰菜, 包心菜), cauliflower (var. *botrytis* 花椰菜), kohlrabi (var. *gongylodes* 芥蘭頭) etc.

*Bras. pekinensis* Rupr.

The celery cabbage or the pale and soft-leaved cabbage; native of China; mostly imported; common varieties including the compact-headed Shangtung cabbage (var. *cylindrica* 黃椰白菜), the loose headed celery cabbage (var. *laxa* 黃金白菜), etc.

*Nasturtium officinale* R. Br.

Water cress, a native of Europe; aquatic herb, creeping or floating, growing locally as a vegetable. 西洋菜。

*Raphanus sativus* L.

Radish, prob. a native of temperate Asia or the near East; annual or perennial herb, the fleshy tap root is a common vegetable, mostly imported. 蘿蔔。

*Rorippa indica* Hiern

Annual weed, occasionally found in waste land; flowers very small, bright yellow; formerly called *Nasturtium indicum* DC.

\*For the nomenclature of the *Brassica* species, G.A.C. Herklot's *Vegetables in South-East Asia* (1972) is followed.

**21. MORINGACEAE***Moringa pterygosperma* Gaertn.

Horse radish tree, native of India; small tree; leaves 3 or 4 times pinnately compound; flowers pale yellow, in large panicles; fruit a long cylindric capsule often cultivated near villages for its edible leaves and fruits. Vern. Lembugai, 辣木。

**22. CRASSULACEAE***Kalanchoe laciniata* (L.) DC.

Succulent herb; flowers yellow or orange; cultivated, native of continental Asia.

*Kalan. pinnata* (Lamk.) Pers.

Flowers purple; detached leaves producing young plants from leaf margins or midrib; also called *Bryophyllum calycinum* Salisb.; native of Africa.

**23. SAXIFRAGACEAE**

Key to the genera

A. Herbs; leaves rounded

*Saxifraga*

A. Shrubs or trees; leaves ovate or oblong.

B. Flowers 4-merous, functional, in terminal racemes

*Polyosma*

B. Flowers 5-merous, all sterile, in dense terminal corymbs

*Hydrangea**Hydrangea macrophylla* (Thunb.) Ser. ex DC.

Shrub or subshrub; flowers all sterile, in large corymbs, pink or blue; garden plant, propagated by cutting; native of China. 繡球花。

*Polyosma conocarpa* Ridl.

Small tree; petals linear, white; specimens not available.

*Poly. fragrans* Benn.

Small tree; once collected by Wallich (No. 8472), Not Seen.

*Poly. ridleyi* King.

Tree; flowers white; recorded from Seletar.

*Saxifraga stolonifera* Meerb.

Small herb, with long thin runners; leaves rounded, lobed, hairy; occasionally cultivated in pots, never flowering; native to China, often called *Saxif. sarmentosa* Linn. f. 虎耳草。

**24. PITTOSPORACEAE***Pittosporum ferrugineum* Ait

Shrub or small tree; leaves crowded at twig tips, in false whorls; flowers yellowish white; capsule orange, 2-valved; Kranji, (Mat 5912) Changi, Seletar, often along sea-shores. Vern. *Giramong*.

## 25. DICHAPETALACEAE

**Dichapetalum sordidum** (Ridl.) Leenh.

Shrub or small tree; infl. axillary; petals oblong, yellow, bifid at apex; Bajau, (Mat 6752). Called *Chailletia sordida* Ridl. in Ridley's Flora.

## 26. ROSACEAE

## Key to the genera

- A. Herbs or shrubs, creeping, scandent or climbing.
  - B. Tiny herb with creeping stolons; leaves 3-foliate *Duchesnea*
  - B. Shrubby with prickly stems.
    - C. Leaves pinnate; carpels on a concave receptacle *Rosa*
    - C. Leaves simple, entire or shallowly lobed; carpels on a convex receptacle *Rubus*
- A. Trees or shrubs, erect.
  - D. Style terminal; carpel 1, 2-ovulate *Prunus*
  - D. Style basal.
    - E. Ovary 1-loculate.
      - F. Stamens 5-10 *Licaria*
      - F. Stamens 2 *Parastemon*
    - E. Ovary 2-loculate *Parinari*

***Duchesnea indica*** Focke

Tiny herb with slender stolons; aggregate fruits red, spheroid, a miniature of the strawberry; also called *Fragaria indica* Andr. A weed, occasionally found in shade and wet places.

***Licaria splendens*** (Korth.) Prance

Small tree; leaves alternate; flowers small, white; fruit a small red drupe; common in secondary forests in Water Catchment area (Cantley 2592). Called *Coccomelia nitida* Ridl. and *Angelesia splendens* Korth. in Malayan literature.

***Parastemon urophyllus*** A. DC.

Large tree; flowers very small, in racemes; fruit oblong, yellowish or pink; in open places often near the sea; formerly found in Jurong (Ridley 6066), Changi, Chua Chu Kang.

***Parinari corymbosa*** (Bl.) Miq.

Large tree; Changi (Ridley 4792) and Fort Canning. Called *Parinarium griffithianum* Benth. in Ridley's Flora, and *Maranthes corymbosa* Bl. in Whitmore's Tree Flora.\*

***Pari. excelsa*** (Jack) Kosterm.

Large tree; flowers white, in racemes or panicles; fruit rounded, slightly compressed; formerly found in Chua Chu Kang. Called *Parinarium asperulum* Miq. in Ridley's Flora, and *Atuna excelsa* Kosterm. in Whitmore's Tree Flora.

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\*Tree Flora of Malaya 2 (1973)

**Pari. oblongifolia** Hook. f.

Large tree; leaves glaucous beneath; fruit ellipsoid (6 × 3 cm); in dense forests, Bukit Timah and Mandai (*Kiah* s.n. in 1940); one of the valuable timber trees in Malaya. Vern. *Balau*.

**Pari. sumatranum** (Jack) Benth.

Large tree, buttressed; flowers white; fruit ellipsoid, hard, brown with white dots; in forests, Chua Chu Kang (*Ridley* 3901), Seletar. Called *Parinarium costatum* Bl. in *Ridley's Flora*.

**Prunus arborea** (Bl.) Kalkman

Large or small tree; in forests, Kranji, Tanglin, Cluny Road (*Ridley* 4452); called *Pygeum parviflorum* Hook. f. and *Pyg. persimile* Kurz in *Ridley's Flora*.

**Prun. grisea** (C. Muell.) Kalkm. var. **tomentosa** Kalkm.

Shrub; Seletar (*Sinclair* 40272). Called *Pygeum lanceolata* Hoff. in *Ridley's Flora*.

**Prun. polystachya** (Hook. f.) Kalkman

Tree; leaf-blades with 2 conspicuous glands at the base; fruit rounded, 2-lobed; common in forests, Gardens jungle, Catchment forests, etc.

**Rosa chinensis** Jacq.

Native of China, called *R. indica* L. in *Burkill's Dictionary*; including: var. *semperflorens* or the crimson China rose, var. *minima* the dwarf fairy rose, etc. Several other garden species and hybrids are introduced and cultivated. 月季花。

**Rubus glomeratus** Bl.

Climbing shrub; leaves ovate deltoid, obscurely 3-lobed; petals white; fruit orange, of few drupes; Jurong (*Ridley* s.n. in 1880). Vern. *Akar balan adap*.

**Rubus moluccanus** L.

Shrub, armed with small hooked prickles; leaves ovate or rounded, cordate, 3-8 shallowly lobed; fruit red, of many small drupes; Bukit Timah (*Sinclair* 37800), Tanglin, Jurong. Called *R. angulosus* Focke in *Ridley's Flora*. Vern. *Tempu rengat*.

**27. CONNARACEAE**

## Key to the genera

- A. Carpels 4 to 5 in a flower, usually more than 1 carpel developing into fruit (except *Rourea*); calyx usually enlarged in fruiting stage. (except *Cnestis*).
  - B. Leaves 3-foliolate; fruit warty *Agelaea*
  - B. Leaves pinnately compound; fruit glabrous *Cnestis*, *Rourea*
- A. Carpel 1 per flower; calyx not enlarged.
  - C. Leaves 1-foliolate; flowers small, in axillary clusters *Ellipanthus*
  - C. Leaves mostly pinnate; flowers in large terminal panicles *Connarus*

**Agelaea borneensis** Merr.

Climber; leaves 3-foliolate, leaflets elliptic to oblong; flowers small, pinkish red; fruit papillose; common in forests; Tanglin, Sembawang, Bukit Timah (Ridley 5585), Changi; called *Agel. vestita* in Ridley's Flora. Vern. *Akar kachang kachang*.

**Agel. macrophylla** (Zoll.) Leenh.

Lateral leaflets  $\pm$  symmetric; Changi (Hullett 426); called *Agel. hullettii* in Ridley's Flora.

**Agel. trinervis** Merr.

Lateral leaflets very oblique; fruit warty; Changi (Ridley s.n. in 1893); called *Agel. wallichii* in Ridley's Flora. Vern. *Akar kachang jantan*.

**Cnestis platantha** Griff.

Climber, sometimes a shrub; leaves odd-pinnate, leaflets 21–31; flowers white; fruit 1 or 2 per flower, pear-shaped; common in dry woods and open places; Bukit Timah (Ridley s.n. in 1894), Tanglin, Changi.

**Connarus ferrugineus** Jack

Climber, sometimes a shrub; leaves odd-pinnate, leaflets 7–11; branches densely ferruginous-tomentose; fruit ellipsoid; Bukit Timah (Md. Shah 744), Bukit Mandai.

**Conn. grandis** Jack

Leaflets 3–5, lanceolate to oblong-ovate; fruit obovoid; Changi, Nee Soon (Sinclair 40321).

**Conn. monocarpus** L. ssp. **malayensis** Leenh.

Leaflets 5–9; fruit obliquely spindle-shaped; formerly found at Bukit Mandai, Changi and Chua Chu Kang (Ridley s.n. in 1894); called *Conn. oligophyllus* in Ridley's Flora.

**Conn. semidecandrus** Jack

Leaflets 3–7, elliptic to lanceolate; fruit pear-shaped, compressed; Bukit Mandai, Cluny Road, Seletar (Mohd. Noor 26).

**Ellipanthus tomentosus** Kurz.

Large tree; leaves 1-foliolate; flowers small, white; Bukit Timah (Corner 34639), Gardens jungle; called *Ellip. griffithii* in Ridley's Flora.

**Rourea fulgens** Planch.

Large climber or shrub; leaves odd-pinnate; leaflets 13–51, very oblique at base; young leaves pink; flowers white or pink; fruit ovoid to ellipsoid, curved; formerly collected at Kranji (Goodenough 2027), and at Gardens jungle.

**Rour. minor** (Gaertn.) Leenh.

Leaflets 1-19; Bukit Timah, Changi (*Ridley 3981*); called *Rour. acuminata* in Ridley's Flora.

**Rour. mimosoides** Planch.

Leaflets 5-51, the base slightly oblique; fruit narrowly ellipsoid, curved; Changi (*Goodenough 2020*) and also very common in reservoir woods; Vern. *Semilat*.

**Rour. rugosa** Planch.

Leaflets 15-41; fruit oblong-ovoid, curved; Changi, Seletar (*Hullett 594*); Vern. *Semilat puteh*.

**28. LEGUMINOSAE**

## Key to the subfamilies.

- |  |                     |
|--|---------------------|
| A. Flowers regular; calyx and corolla mostly valvate in bud  | I. Mimosoideae      |
| A. Flowers irregular; perianth segments conspicuously imbricate in bud   |                     |
| B. Corolla caesalpinaceae, namely petals 5, free, with the uppermost (posterior) petal innermost   | II. Caesalpinoideae |
| B. Corolla papilionaceae, namely petals 5, with the uppermost petal outermost, and the two lower (anterior) petals often basally connate | III. Papilionoideae |

**(I) Mimosoideae — Conspectus of tribes\***

- A. Calyx-lobes valvate.
  - B. Stamens more than 10.
    - 1. Ingeae (Filaments united into a tube): *Serianthes*, *Samanea*, *Pithecellobium*, *Albizia*, *Calliandra*.
    - 2. Acacieae (Stamens free or nearly so): *Acacia*.
  - B. Stamens as many or twice as many as petals.
    - 3. Mimoseae (Anthers glandless): *Leucaena*, *Mimosa*.
    - 4. Adenanthereae (Anthers crowned by a gland; seeds albuminous): *Neptunia*, *Adenanthera*.
    - 5. Piptadenieae (Anthers usually glandulate; seeds exalbuminous): *Entada*.
- A. Calyx-lobes imbricate.
  - 6. Parkieae: *Parkia*.

**(II) Caesalpinoideae — Conspectus of tribes**

- A. Leaves pinnate, or sometimes simple or 1-foliate.
  - B. Sepals free to the base.
    - 1. Cynometreae (Anthers dorsifixed, dehiscing by slits; leaves simple pinnate or simple; bracteoles small or large, not enclosing the flower buds): *Cynometra*, *Sindora*.
    - 2. Amherstieae (Anthers and leaves as above; bracteoles well developed, enclosing the flower buds, valvate, persistent): *Saraca*, *Trachylobium*, *Hymenaea*, *Tamarindus*, *Intsia*, *Amherstia*, *Brownea*.
    - 3. Cassieae (Anthers firm in texture, usu. dehiscing by pores; leaves usu. simple pinnate): *Dialium*, *Koompassia*, *Cassia*.

\*Adapted and modified from J. C. Willis' Dictionary (7th ed. 1972).

B. Sepals joined below.

4. Cercideae (Leaves usu. simple, bilobed; stamens 10 or fewer): *Bauhinia*.

A. Leaves bipinnate.

5. Caesalpinieae (Flowers in racemes or panicles): *Caesalpinia*, *Peltophorum*, *Delonix*.

### (III) Papilionoideae — Conspectus of tribes

A. Stamens free or almost so.

1. Sophorieae (Trees, shrubs or rarely woody herbs or lianes; leaves pinnate or 1-foliolate with a joint between petiole and lamina): *Ormosia*, *Sophora*.

A. Stamens mon- or di-adelphous (i.e. filaments joined into one or two groups).

B. Herbs or shrubs (or trees or lianes in tribes 3 & 7); pods dehiscent unless short and 1-2 seeded, or inflated.

C. Pods not transversely jointed.

2. Genisteae (Usually shrub; leaves simple or digitately 3- or more foliolate, leaflets entire; stamens usually monadelphous, anthers often of 2 sizes): *Crotalaria*.

3. Astragaleae (Galegeae) (Leaves pinnately 5-many or rarely 3- or 1-foliolate; leaflets usually entire; rachis not ending in a tendril; stamens usually diadelphous): *Indigofera*, *Psoralea*, *Tephrosia*, *Milletia*, *Giliricidia*, *Sesbania*.

4. Fabeae (Vicieae) (Herbs, leaves even-pinnate, without stipels, rachis ending in a point or tendril; stamens 10, diadelphous): *Vicia*, *Pisum*.

5. Abreae (Shrubs or twiners woody at the base; leaves even-pinnate, rachis ending in a point, usually stipellate; stamens 9, united): *Abrus*.

6. Phaseoleae (Often twining; leaves pinnately 3-foliolate, usually stipellate, rarely 1 or 5-7 foliolate; leaflets entire or lobed; stamens di- or monadelphous): *Clitoria*, *Centrosema*, *Glycine*, *Erythrina*, *Mucuna*, *Canavalia*, *Cajanus*, *Maughania*, *Phaseolus*, *Vigna*, *Pachyrrhizus*, *Dolichos*, *Psophocarpus*.

C. Pods transversely jointed.

7. Coronilleae (Hedysareae) (Shrubs or twiners; leaves pinnately 3- to many-foliolate, stipellate or not): *Aeschynomene*, *Arachis*, *Zornia*, *Desmodium*, *Alysicarpus*; *Uria*.

B. Trees, shrubs or lianes; pods indehiscent.

8. Dalbergieae (Leaves pinnately 5-many-foliolate, rarely 1-3-foliolate, stipellate or not): *Dalbergia*, *Pterocarpus*, *Pongamia*, *Derris*, *Andira*.

#### *Abrus precatorius* L.

Twining subshrubs; leaves even-pinnate, leaflets 8-17 pairs; seeds hard, scarlet with a black spot; in hedges and on sea-shores (Changi. Ridley s.n. in 1891). Probably of African origin, naturalized. Vern. *Akar saga*, 相思子。

#### *Acacia auriculiformis* A. Cunn. ex Benth.

Tree; phyllodes (seemingly leaves) dull green; flowers small in yellow clusters; pods curling up into a ring when ripe, dark brown. Native of New Guinea and Australia (or Thursday Island in the Torrey Strait); extremely common all over the island.

#### *Acac. farnesiana* Willd.

Shrub or small tree, thorny; leaves bipinnate; flower heads bright yellow, fragrant. Probably of American origin. Vern. *Lasana*, 金合歡。

#### *Acac. cincinnata* F. Muell.

Shrub or small tree; phyllodes silvery-coloured ("Silver Wattle"); native of tropical Queensland. Sometimes called *Acac. mangium* Willd. (from Moluccas) which may prove to be conspecific with this species.

**Acac. pseudo-intsia** Miq.

Big climber; leaves bipinnate; pinnae 4-10 pairs; leaflets 10-30 pairs on each side stalk; in forests, Bukit Mandai, Changi (Hullett 458), Tuas, Chua Chu Kang. Vern. *Akar kapok*.

**Adenanthera bicolor** Moon

Tree; pods curved in a ring; seeds one third black and two thirds scarlet; in lowland forests, Bukit Mandai (Ridley 3636a), Pasir Panjang, etc.

**Ad. pavonina** L.

Large tree; leaves bipinnate; leaflets 9-15 on each side stalk; pod curved; seeds scarlet. Native of tropical Asia; commonly planted. Vern. *Saga* 孔雀豆。

**Aeschynomene indica** L.

Herb; leaves pinnate, with 20-30 pairs of leaflets; flowers yellow; pods jointed, breaking into 8-10 prickly parts; in open wet places; Galang (Ridley 10355).

**Albizia falcataria** (L.) Fosberg

Tall tree, very fast-growing; native of Moluccas, planted and wild in Singapore, common in waste places. Also called *A. falcata* Back. or *A. moluccana* Miq.

**Alb. retusa** Benth.

Tree; leaves bipinnate; pinnae 1-4 pairs; leaflets 3-10 pairs on each side stalk; flower heads pink; rare, once collected at Pulau Ubin (Ridley 4752). Called *A. littoralis* T. & B. in Ridley's Flora.

**Alb. pedicellata** Baker

Tall tree; leaves bipinnate; leaflets 12-16 pairs on each side stalk; pods flat (30-45 cm long) and thin; in forests, Kranji (Ridley 6297).

**Alysicarpus vaginalis** DC.

Ascending herb; uni-foliolate, variable; flowers white or dark red; pods cylindric, jointed, of 4-9 1-seeded pieces; in open places, Changi (Ridley 2080a), Telok Kurau.

**Amherstia nobilis** Wall.

Small tree; leaves pinnate; leaflets 4-7 pairs, opposite; flowers in hanging racemes from branches. Native of Burma, a well-known garden ornamental.

**Andira inermis** (Wright) H.B.K.

Tree; leaves odd-pinnate, with 4-8 pairs of leaflets; flowers dark purple; pods pear-shaped, indehiscent. Native of Surinam in trop. America.

**Arachis hypogaea** L.

Ascending herb, rooting at the base; leaves even-pinnate, with 2 pairs of leaflets; flowers bright yellow; after pollination, the ovary on a lengthening stalk is forced into the ground, where the pod develops "ground-nut". Native of Brazil, occasionally cultivated. Vern. *Kachang tanah*, 花生, 落花生。

*Bauhinia acuminata* L.

Shrub; leaves simple, 2-lobed, the lobes pointed; flowers white; stamens 10. Native of S.E. Asia, cultivated.

*Bauh. flammiifera* Ridl.

Large climber; flowers in large panicles, yellow, orange then red. Called *Phanera flammiifera* (Ridl.) de Wit. Native of Malaya.

*Bauh. griffithiana* Prain

Large climber; petals white; stamens 6; in thickets. Also called *Phanera griffithiana* (Prain) de Wit.

*Bauh. monandra* Kurz

Tree; petals yellow then pale red; perfect stamen 1. Native of America, cultivated.

*Bauh. purpurea* L.

Bush or small tree; flowers pink; stamens 3 with pink filaments. Continental Asia, cultivated.

*Bauh. semibifida* Roxb.

Large climber; flowers white then greenish yellow; stamens 3, white; in secondary jungle, Bukit Mandai, Bukit Timah (*Burkill* 323), Gardens jungle. Also called *Phanera semibifida* (Roxb.) Benth.

*Bauh. tomentosa* L.

Shrub or tree; flowers solitary or in pairs; petals pale yellow; stamens 10. Trop. Africa and continental Asia, cultivated.

*Bauh. variegata* Bl.

Bush or small tree; leaves simple, 2-lobed; flowers in short racemes, pink to violet; perfect stamens 5. Native of continental Asia, cultivated. A natural hybrid between this species and *Bauh. purpurea* is called *Bauh. blackeana* Dunn which also has 5 stamens but remains sterile, commonly cultivated in gardens.

*Brownea ariza* Benth.

Shrub or small tree, branches drooping; new leaves pink, developing in tassels; flowers red, in a crowded head. Native of Colombia, occasionally cultivated in gardens.

*Caesalpinia bonduc* Roxb. emend. Dandy & Exell

Prickly shrub; leaves bipinnate; pinnae 6–10 pairs; leaflets 12–24; stipules pinnate; petals yellow; near the sea.

*Caes. crista* L.

Prickly black-stemmed climber; leaves bipinnate; flowers bright yellow; on sandy beaches and mangroves, Kranji, Jurong. Called *C. nuga* in Ridley's Flora.

*Caes. globulorum* Bakh. f. & Van Royen

Leaves and leaflets larger than those of *Caes. bonduc*; stipules subulate; near the sea.

*Caes. pulcherrima* (L.) Swartz

Shrub; flowers yellow or red; known as Peacock flower, native of S. America. Also called *Poinciana pulcherrima*, 金鳳花。

*Caes. sappan* L.

Prickly shrub or tree; flowers bright yellow. Native of Continental Asia, occasionally cultivated. Vern. *Sappan tree*, 蘇木。

*Cajanus cajan* (L.) Huth.

Shrub, white hairy; leaves 3-foliolate. Vern. *Kachang kayu*, pigeon pea, 木豆。

*Calliandra brevipes* Benth.

Erect shrub; leaves bipinnate; pinnae in one pair; leaflets 20–40 pairs; free part of the filaments pinkish above and white below. Native of Tropical America.

*Call. haematocephala* Benth.

Like the above species, but leaflets 6–10 pairs, and free part of the filaments entirely blood red. Native of Trop. America.

*Canavalia catharica* Thou.

Twiner; leaves 3-foliolate; flowers rose-pink to dark purple; pod linear oblong (7–12.5 × 4–6 cm), strongly 3-keeled; beans poisonous; common on sandy shore. Also called *C. turgida*, *C. obtusifolia*.

*Cana. ensiformis* DC.

Jack bean; native of the New World tropics; pod 20–30 × 2–3 cm. Vern. *Kachang parang puteh*.

*Cana. gladiata* DC.

Sword bean; native of the old world tropics; pod 30–60 × 3–4.5 cm, edible. Vern. *Kachang parang*.

*Cana. maritima* Piper

Twiner; flowers pink, sweet scented; pod 6–15 × 1.5–3; beans edible; common on seashores; Changi. Also called *C. turgida* Grah. ex Gray.

*Cassia alata* L.

Shrub; leaves simple pinnate; leaflets 8–20 pairs; flowers orange, in racemes, at first covered with large dark orange bracts; pod black, with 2 broad wings along its length; native of tropical America. Vern. *Gelenggang*. In addition to those listed below, there are a number of others species planted. All the *Cassia* species in Singapore are introduced; 2 of them, *C. nodosa* and *C. siamea* are native to the Malayan mountains, the rest are from various parts of the World.

*Cas. fistula* L.

Tree; leaflets 3–8 pairs; hanging racemes with yellow flowers (hence "Golden shower"); pod woody, cylindric. Native of India and Ceylon.

*Cas. fruticosa* Mill.

Shrub; leaflets 2-pairs; flowers pale yellow, in loose terminal clusters. Native of Tropical America.

*Cas. hirsuta* L.

Hairy herb; leaflets 3–6 pairs; flowers 1–3, axillary, yellow; pod linear, rounded. Tropical America.

*Cas. mimosoides* L.

Subshrub; flowers 1–3, axillary. A weed, native of S.E. Asia.

*Cas. nodosa* Buch.-Ham. ex Roxb.

Tree; leaflets 5–12 pairs; flowers in pink clusters ("pink Cassia"), often behind leaves. Native of the Malayan mountains.

*Cas. obtusifolia* L.

Herb, resembling *C. tora* but not foetid; flowers yellow. Weed, American origin.

*Cas. occidentalis* L.

Herb or subshrub; flowers orange-yellow. Weed. native of S. America.

*Cas. siamea* Lam.

Tree; flowers bright yellow. Ornamental and timber tree; native of Malaya and Thailand.

*Cas. tora* L.

Herb or subshrub; leaflets 3 pairs; flowers pale yellow; pod narrow and curved, 4-angled.

*Centrosema plumieri* Benth.

Twining subshrub; leaves 3-foliolate; flowers white with 2 large reddish violet blotches. "Butterfly pea", native of America.

*Clitoria laurifolia* Poir.

Erect herb; leaves 3-foliolate; flowers white to pale blue. Native of Brazil.

*Clit. ternatea* L.

Slender twiner; leaves 5–7 foliolate; flowers blue (often in double form). Native home unknown (either S. America or the Malay Islands).

*Crotalaria bialata* Schrank

Subshrub; leaves 1-foliolate; stems winged; flowers pale yellow; in sandy places or on waste ground, Jurong, Changi (Ridley 4671). Vern. *Kachang hantu darat*. Called *C. alata* Buch.-Ham. ex D. Don in Ridley's Flora.

*Crot. mucronata* Desv.

Shrubby; leaves 3-foliolate; flowers yellow with reddish or purplish stripes; in open places, Changi, Geylang. Called *Crot. saltiana* Andr. in Ridley's Flora.

*Crot. quinquefolia* L.

Herb; leaves 5–(3–7–) foliolate; flowers bright yellow; in open waste ground, rare, Kranji (Ridley 575).

*Crot. retusa* L.

Shrubby; leaves 1-foliolate; stems not winged; flowers yellow; on sea-shores, Changi, (Ridley 2087).

***Cynometra cauliflora* L.**

Tree; leaves of 1 pair of leaflets; flowers white, small, in clusters on trunk; pod kidney-shaped, can be eaten raw or cooked. Prob. a native of E. Malesia. vern. *Nam nam*, *Num num*.

***Cyn. ramiflora* L.**

Leaflets 1-2 pairs; pod thick, ovoid, wrinkled, not edible; in tidal rivers and mangroves, Jurong, Kranji (*Sinclair SFN 40957*).

***Dalbergia candenatensis* Prain**

Climber; leaflets usually 5; panicles axillary; flowers white; pods thick, flat, 1- or 2-seeded rounded; in littoral scrubs, Kranji, P. Ubin (*Ridley 4678*), P. Damar. Called *D. torta* Grah. in Ridley's Flora.

***Dalb. hullettii* Prain**

Shrub; flowers white, produced when the leaves are fallen; rare, in open swampy ground, Seletar (*Ridley s.n.* in 1896).

***Dalb. junghuhnii* Benth.**

Woody climber; flowers small, greenish white; in secondary woods, Changi, Sembawang, P. Ubin, Tanglin (*Hullett 161*). Called *D. scortechinii* Benth. in Ridley's Flora.

***Dalb. parviflora* Roxb.**

Large climber, spiny. Bukit Timah (*Ngadiman 358*).

***Dalb. rostrata* Grah.**

Woody climber; flowers white; Gardens jungle, Changi (*Ridley 6090*), Bukit Mandai.

***Dalb. velutina* Benth.**

Woody climber; Tempinis, Changi, Seletar (*Sinclair 39617*).

***Delonix regia* Rafin.**

A large deciduous tree with umbrella-shaped crown; leaves bipinnate; flowers scarlet (hence "flame of the forest"); pods woody, very large, with 20-40 seeds inside, splitting open on the tree. Native of Madagascar, widely planted. Vern. *Gul mohm*, 鳳凰木。

***Derris amoena* Benth.**

Large climber; leaves pinnate, leaflets about 7; flowers pink, in panicles; pods flattened, 2-seeded; once found in Siglap (*Ridley 10380*).

***Der. elliptica* Benth.**

Native of continental Asia, often planted for the roots which are used for killing insects on vegetables and for catching fish. Vern. *Tuba*, 毒魚簍。

**Der. heptaphylla** (L.) Merr.

Woody climber; flowers greenish; tidal river, Yeo Chu Kang, P. Ubin (*Hullett 6194*). Called *D. sinuata* Thw. in Ridley's Flora.

**Der. heterophylla** (Willd.) Backer

Scandent shrub; leaflets 3–5; flowers pink; pods thin, flat, 1-seeded; common on sea coast and by tidal rivers, Changi, P. Ubin, Kranji (*Ridley s.n. in 1893*). etc. Called *D. uliginosa* Benth. in Ridley's Flora. Vern. *Akar ketuil*.

**Der. scandens** Benth.

Scandent bush; flowers white; Pulau Merambong (*Ridley 9492*).

**Der. thyrsiflora** Benth.

Scandent bush; flowers in dense erect panicles, white; pods long and thin, reddish; common in open places, Bukit Timah, Tanglin, Changi (*Ridley 2092*).

**Desmodium heterocarpon** (L.) DC.

Shrub; leaves 3-foliolate; flowers white or deep crimson; pods of several 1-seeded joints; in open places, Changi (*Ridley s.n. in 1890*), Tanglin, Seletar. Called *D. polycarpum* DC. in Ridley's Flora. A variety (var. *ovalifolium* Prain) with creeping habit, round silky leaflets and pale lavender flowers was recorded at Ang Mo Kio. Vern. *Kalumbar*.

**Desm. heterophyllum** DC.

Creeping herb; flowers pink; common in the grassland all over the island; pod 3–4 mm wide. Singapore (*Hullett 418*).

**Desm. triflorum** DC.

Like the above species, pods narrower (2–2.5 mm wide). Roadsides and grassland; Tanglin, Changi (*Ridley 2079*), Bukit Timah.

**Desm. umbellatum** DC.

Large shrub; flowers white; on sea coasts around the island; Pulau Senang (*Sidek 87*).

**Dialium laurinum** Baker

Large tree; leaves pinnate, leaflets 5–7; pods ovoid, velvety dark brown, each containing one seed surrounded by sweet edible pulp; the hard, heavy wood is well-known; Kranji, MacRitchie Reservoir (*Sinclair 8921*). Vern. *Kranji*.

**Dial. maingayi** Baker

Like the above, with 7–9 leaflets; Catchment Area, Bukit Timah (*Ngadiman 34621*).

**Dial. wallichii** Prain

Like the above, with 9–11 leaflets; Garden's jungle, Bukit Timah (*Sinclair* 39568).

**Dolichos lablab** L.

Also called *Lablab niger* Medik.; prob. native of India, cultivated for its edible pods and beans ("hyacinth bean"). Vern. *Kachang kara*, *Karkaras*, 扁豆。

**Entada spiralis** Ridl.

Woody climber; leaves bipinnate, pinnae 4, leaflets usually 4 pairs in a pinna; flowers small, in dense racemes; pods curled with 5–11 very large seeds (3 × 5 cm); in secondary forests, formerly at Tanglin (*Ridley* 2102), Chua Chu Kang, now survives in Catchment Area.

**Erythrina fusca** Lour.

Tree; leaves 3-foliolate, terminal leaflets much longer than broad, tapering to base; flowers dark purple. A widely distributed species from India to the Pacific Islands, cultivated.

**Ery. orientalis** Murr.

Tree; terminal leaflets broader than long, truncate at base; flowers dark scarlet. Also called *Ery. indica* Lam., from India to the Pacific Islands, but cultivated here. Vern. Indian coral tree, 刺桐。

**Ery. parcelli** Hort.

Leaflets with a broad yellow midrib and several yellow stripes along the side-veins, the base truncate; flowers bright orange red; cultivated in gardens or as a roadside tree. Native of Trop. Asia.

**Ery. subumbrans** Merr.

Like *Ery. orientalis*, but terminal leaflets nearly as long as broad; and flowers comparatively smaller (3–5 cm long); native of Malesia. cultivated.

**Gliricida sepium** Walp.

Small tree; leaves pinnate; leaflets 13–17; flowers pinkish native of Mexico (hence "Mexican lilac"); cultivated in gardens or along roadside.

**Hymenaea courbaril** L.

Tall, fast-growing tree with a spreading crown; leaves consisting of a pair of oblique leaflets; flowers white; pods oblong with 2 or few seeds inside, stinking. The resin (collected by cutting the bark) is called "copal" of the trade. "Locust tree", native of the West Indies.

**Indigofera tinctoria** L.

Shrubby, much-branched; leaves pinnate; leaflets 5–13; flowers greenish yellow. Indigo, a deep blue dye, is obtained by allowing plants to soak and ferment in water. Native of India and Ceylon. Vern. *Nila*, *tarum*, 藍靛。

**Indig. hirsuta** L.

Herb, stems, leaf rachis, calyx and pods covered with long brown hairs; leaflets 5–9; a weed, found on sandy seashores.

***Intsia bijuga* (Colebr.) O. Ktze.**

Small tree; leaflets in 1 (or less commonly in 2) pair; pods woody, large, oblong, slightly flat; common along sea coast, Bajau (Ridley 4675), Changi, Kranji. Called *Afzelia bijuga* A. Gray and *A. retusa* Kurz in Ridley's Flora. Vern. *Merbau ayer*.

***Koompassia malaccensis* Maing. ex Benth.**

Gigantic tree with bug buttresses; leaflets 5-9; pods 1-seeded, flat, oblong. Formerly very common all over the island, now restricted to Bukit Timah and Catchment Area (Ridley 6403). Vern. *Kempas*.

***Kunstleria ridleyi* Prain**

Large climber; leaflets 5; flowers small, dark purple, in large panicles; pods golden pubescent; in woods, Gardens jungle, Mandai (Corner 37735), Seletar. Endemic to Singapore.

***Leucaena leucocephala* (Lamk.) De Wit**

Shrub; leaves bipinnate; flowers white, crowded in globular heads; pods thin flat, 2-valved; seeds many. "Lead tree", native of trop. America; occurs near villages. Called *L. glauca* Benth. in literature. Vern. *Petai Jawa*.

***Mezoneuron sumatranum* W. & A. ex Benth.**

Prickly climber; leaves bipinnate; flowers flame-coloured; pods bright red; in edge of woods and open places, not common; Bukit Timah, Kranji, Jurong. Vern. *Akar Darah Blut* (Eel's blood).

***Millettia atropurpurea* Benth.**

Tree; crown large dome-shaped; leaflets 9-11; flowers large, dark purple; pods thick leathery, 1-2-seeded. Native of the Malayan mountains, planted; fine specimens in MacRitchie Reservoir. Vern. *Tulang daing*.

***Mill. eriantha* Benth.**

Woody climber, covered with golden hairs; leaflets 2-3 pairs; flowers coppery red; pods woody, 1-seeded; found from Gardens' jungle, Bukit Mandai, Tanjong Gul (Sinclair 10750). Called *Adinobotrys erianthus* Dunn in Ridley's Flora. Vern. *Akar pua*.

***Mill. maingayi* Baker**

Big climber with hanging panicles of scented pink flowers; leaflets 11-17; pods 1-seeded; recorded from Reservoir woods, Chua Chu Kang and Tanglin (Hullet 145). Called *Padebruggea maingayi* (Baker) Dunn in Ridley's Flora.

***Mimosa invisa* Mart. ex Colla**

Subshrub or herb, scandent at base, erect above; pinnae 5-9 pairs; flower-heads reddish purple; in open places; native of trop. America.

***Mim. pudica* L.**

The sensitive plant; subshrub, spreading; stems prickly; leaves bipinnate, pinnae in two pairs, arranged at the top of a long stalk; flower-heads pink; pods jointed, the edges covered with bristles; native of trop. America, naturalized in waste places. Vern. *Rumput si-malu*, 含羞草。

**Mim. sepiaria** Benth.

Shrub; pinnae 5-9 pairs; flower-heads white or pale yellow; native of trop. America.

**Maughania strobilifera** St. Hil. ex O. Kuntze

Shrub, leaves 1-foliolate; on seashores, uncommon; recorded from Changi (Ridley 2076) and Blakang Mati. Formerly called *Flemingia strobilifera* Br.

**Mucuna bennetti** F. Muell.

Climber; leaves trifoliolate; flowers large, scarlet, in racemes. Introduced from New Guinea. Seeds obtained only through hand-pollination.

**Muc. gigantea** (Willd.) DC.

Climber; leaves large, trifoliolate; flowers greenish white; recorded from Blakang Mati and Telok Paku (Sinclair 9972).

**Neptunia natans** (Linn. f.) Druce

A water-sensitive plant; floating; leaves bipinnate; leaflets numerous; flowers bright yellow; perhaps a native of S.E. Asia; in ditches, formerly very abundant, now very rarely cultivated as a vegetable. Also called *N. oleracea* Lour.

**Ormosia bancana** (Miq.) Merr.

Tree; leaflets 7-13, small, deep green; flowers white; pods round; seeds 1-3, red; Catchment Area, Changi, Pasir Panjang (Ridley 8096). Formerly called *O. parvifolia* Baker.

**Ormos. macrodisca** Bak.

A big tree; flowers pink; pods flat and round, with a large scarlet and black seed; a timber tree, very rare, once recorded in Dalvey Road (Ridley 2103).

**Ormos. sumatrana** (Miq.) Prain

Tree; flowers white; rare, recorded from Tanglin and Seletar (Ridley 5574).

**Pachyrhizus erosus** (L.) Urb

Twining herb, spreading, with a tuberous tap root; leaves 3-foliolate. Native of America; leaves, beans and seeds poisonous but the tuberous roots ("yam bean") are edible. Also called *P. tuberosus* Spreng. Vern. Bengkuang, 豆薯。

**Parkia speciosa** Hassk.

Tall tree, buttressed; leaves bipinnate; leaflets 20-35 pairs on side stalks; flowers very small, crowded on pear-shaped heads; pods large, flattened and twisted, with onion-smell, edible; scattered in forests, Bukit Timah, Catchment Area. Vern. *Petai*.

**Peltophorum pterocarpum** Backer ex Heyne

Tree, with dome-shaped crown; leaves bipinnate; flowers showy, yellow (hence "yellow flame"); pods flat, thin, with a wing around; formerly a native tree at Changi coast (Ridley 4676), now extinct, but widely planted as ornamental or as roadside trees. Also called *Pelt. ferrugineum* Benth. Vern. *Balai*, 盾柱木。

*Phaseolus lunatus* Linn.

Lima bean, native of S. America, occasionally cultivated for its edible beans.

*Phas. vulgaris* Linn.

French bean or kidney bean, native of trop. America, commonly cultivated for its edible beans. Vern. *Kachang pendek*, 四季豆, 菜豆。 (several other species of *Phaseolus* (or *Vigna*) of which the dried beans are selling in stores including: *Phas. aureus* Roxb., the green gram, 綠豆, native of India, and *Phas. angularis* F. W. Wright, the adzuki bean, 赤豆, native of the Orient).

*Pithecellobium clypearia* Benth.

Small tree; leaves bipinnate; pinnae 2–9 pairs; leaflets 4–14 pairs, rhombic, asymmetric; flowers in large panicles; pods flattish, lobed, twisted and loosely curled; common in secondary forests, Seletar, (*Goodenough* 2097), Chua Chu Kang. Vern. *Petai belalang*.

*Pith. contortum* Mart.

Small tree, like *P. clypearia* but twigs rounded (not angled as in the latter); common, Tanglin, Changi, Seletar, Bukit Mandai (*Ridley* 4755).

*Pith. dulce* Benth.

Tree, with a bushy crown; pods pale greenish, seeds black covered by thick white pulp. A native of trop. America, erroneously called "Madras Thorn".

*Pith. ellipticum* Hassk.

Tree; pods flat, 3 cm wide, twisted into a ring; Seletar, P. Merambong (*Corner* 29963), P. Ubin. Vern. *Jering hutan*.

*Pith. globosum* (Bl.) Kosterm.

Small tree. Tanjong Bunga (*Ridley* 6408). Called *P. affine* Baker in *Ridley's* Flora.

*Pith. jiringa* (Jack) Prain

Tree, pods large, 5–6 cm wide, strongly swollen at each seed, curled and twisted, garlic smelled, can be cooked and consumed as a vegetable, wild in secondary forests, commonly cultivated for the edible pods. Called *P. lobatum*, Gardens jungle (*Ridley* s.n. in 1897). Vern. *Jering*.

*Pith. microcarpum* Benth.

Small tree, flowers white; pods curly, bright orange; in secondary woods, Tanglin, Changi (*Ridley* 188) Chua Chu Kang, Bukit Timah.

*Pith. splendens* Corner

Large tree; pods flat, swollen at the seeds, slightly curved; rare, Bedok (*Ridley* 8446), Seletar. Called *P. confertum* Benth in *Ridley's* Flora.

*Pongamia pinnata* (L.) Pierre

Small tree; leaflets 5–7; flowers pink; formerly common on the coast, Changi, Siglap, Jurong, P. Ubin (*Ridley* s.n. 1891), now occasionally found in mangrove, sometimes cultivated. Vern. Mempari, 水黃皮。

*Psophocarpus tetragonolobus* DC.

Perennial twinner, with a tuberous root; leaves 3-foliolate; flowers pale blue-violet; pods cylindric with 4 wings ("four angled bean"). Prob. native to Madagascar, cultivated for its edible beans. Vern. *Kachang botor*, 四翼豆。

*Psoralea corylifolia* Linn.

Annual herb; leaves simple. Native of India, grown on several occasions in Botanic Gardens; the seeds are used medicinally. 補骨脂。

*Pterocarpus indicus* Willd.

Large tree, leaves pinnate, flowers yellow, fragrant; pods 1-2-seed, wood valuable. Native of the continental Asia and Malaya; extensively planted as roadside trees, easily propagated by large cuttings. Vern. *Angsana*, *Sena*, 印度紫檀。

*Samanea saman* (Jacq.) Merr.

Large tree, trunk usually branched; crown broadly dome-shaped; leaves bipinnate. "Rain tree", a native of Tropical America, often planted as a shade tree in large gardens or on roadsides. Also called *Enterolobium saman* Prain.

*Saraca indica* Linn.

Small tree; leaves pinnate; leaflets 4-6 pairs; flowers orange-yellow, in large clusters on trunk or branches; pods large, flat, purple. Native of Malaya and the continental Asia, Cultivated. Vern. Gapis. *Talan*.

*Sar. thaipingensis* Cantley ex Prain

Like above species, but leaves larger and leaflets with a conspicuous stalk. Native of Malaya, sometimes cultivated in gardens.

*Serianthes dilmyi* Fosberg

Tree; leaves bipinnate; pods woody, thick; once collected from Bukit Timah (*Wallich* 5285). Recently collected from Pulau Pawai (*Sinclair* 38902). Called *Seri. grandiflora* Benth. in Ridley's Flora.

*Sesbania grandiflora* Pers.

Shrub or small tree, with showy white or blue flowers. Native country unknown, cultivated as an ornamental plant for its edible leaves. Vern. *Turi*, 大花田菁。

*Sindora wallichii* Grah. ex Benth.

Large tree with a massive crown; leaves with 3-4 pairs of leaflets; pods oval to oblong, flat, 1-seeded, covered with close, stout hard spines; Gardens' jungle, Changi (*Bakar s.n. in 1893*). Vern. *Sepetir daun tebal*.

*Spatholobus ferrugineus* Benth.

Large climber, sometimes to the tops of the tallest trees; leaves 3-foliolate; flowers dark purple; pods flat, thin, with 1 seed near the tip, indehiscent; Gardens' jungle, Tanglin, Changi (*Ridley* 3609a) Bukit Timah. Vern. *Ajar Sejangat*.

**Spath. maingayi** Prain

Flowers white or pinkish white; Gardens' jungle, Bukit Timah Road (Ridley 6397).

**Spath. ridleyi** Prain

Flowers white or yellow; Botanic Gardens (Ridley 6401), Chua Chu Kang.

**Strongylodon macrobotrys** A. Gray

"Jade vine", from the Philippines, sometimes cultivated for its large, hanging, blue-green flowers.

**Tamarindus indica** Linn.

Large tree, with a dense, rounded crown; leaves pinnate; leaflets 10–20 pairs; flowers pale yellowish; pods brown. The pulp of the ripe pods is edible, also employed in the native medicine; timber valuable. Native of tropical E. Africa and W. Asia. Vern. *Asam jawa*, *Tamarind*, 羅望子。

**Tephrosia noctiflora** Bojer ex Baker

Bushy herb; leaflets 13–19; flowers white or pinkish; on waste grounds. Native of Africa.

**Uraria crinita** Desv. ex DC.

Shrubby; leaflets 5–7; flowers lavender, in dense racemes, to 30 cm long; in open waste places. Native of Tropical Asia.

**Vigna marima** Merr.

Small twiner; leaves 3-foliolate; flowers yellow ("yellow vetch"); on sandy seashores, Changi (Ridley s.n. in 1890), Blakang Mati. Called *V. retusa* Walp. in Ridley's Flora.

**Vigna unguiculata** (L.) Walp.

Twining herbs; leaves 3-foliolate; prob. native of India; two forms are cultivated: ssp. *sinensis* Fruw. (pods up to 30 cm long, vern. *Kachang bol*, 紅豆) and ssp. *sesquipedalis* Fruw. (pods 30–90 cm long, vern. *Kachang perut ayam*, 長紅豆); pods of both forms are served as vegetables.

**Zornia diphylla** Pers.

Creeping herb; leaves of a pair of narrow leaflets; flowers yellow; pods spiny; in open sandy places. A pantropical weed.