Mimosaceae

Trees, shrubs or herbs, sometimes armed with spines (modified stipules). Leaves alternate, petiolate, 2-pinnate, often with glands on petiole or base of pinnae. Inflorescence of axillary or terminal heads, spikes, racemes or panicles. Flowers usually bisexual, 4- or 5-merous, regular; calyx and corolla of free segments, or the segments united below in a tube. Stamens 5 to numerous, free or united below, often forming the showy part of the flower; anthers often with a deciduous apical gland. Ovary superior, 1-celled. Fruit a dehiscent or indehiscent legume, sometimes breaking into 1-seeded joints.

Key to Genera

1. Aquatic or waterside herbs or subshrubs
   1. Trees.
      2. Plants armed with stipular spines
      2. Plants unarmed.
   3. Leaflets alternate; inflorescence a raceme, the flowers not congested in heads; stamens 10, filaments free
      1. Adenanthera
   3. Leaflets opposite; inflorescence a congested (densely-flowered) head; stamens more than 10; filaments united below in a tube.
      4. Fruit coiled nearly in a full circle and ear-shaped, indehiscent, to 11 cm wide
         4. Enterolobium
      4. Fruit straight (the valves sometimes coiled after dehiscence), dehiscent or indehiscent, to 5 cm wide (usually less).
   5. Fruit indehiscent; seeds embedded in pulp
   5. Fruit dehiscent; seeds not embedded in pulp.
      6. Filaments cream- or greenish-yellow; valves of fruit straight after dehiscence; seeds 8-10 per legume
         2. Albizia
      6. Filaments red or pink; valves of fruit coiled after dehiscence; seeds 2-6 per legume
         3. Calliandra


1. Adenanthera Linnaeus

Unarmed, evergreen trees or shrubs. Leaves alternate, petiolate, 2- or 3-pinnate; leaflets numerous. Inflorescence a terminal panicle with spike-like racemes as branches, or an axillary, solitary raceme. Flowers 5-merous, small; petals valvate. Stamens 10, free; anthers with an apical, stipitate, globose, deciduous gland. Fruit narrow, coiled after dehiscence, flattened. Seeds lens-shaped (biconvex, lenticular), red, or red and black.
Fig. 134. Adenanthera pavonina (Mimosaceae).
1. *Adenanthera pavonina* Linnaeus, *Species Plantarum* 384 (1753). BUCK BEAD (Guyana); SEGAWE (Surinamese Javan); CORALWOOD, RED SANDALWOOD. Tree to 15 (-24) m, often smaller as a shrub. Leaves 2-pinnate, to 40 cm, with 2-5 pairs of pinnae; leaflets 6-8 pairs per pinna, usually alternate, broadly elliptical to ovate, obtuse, apiculate, glabrous or very sparsely puberulent, 2-4 x 1-2 cm; petiole to 15 cm. Inflorescence to 30 cm, paniculate at tips of branches and also some solitary racemes from base of leaves. Flowers spreading, yellowish to orange, to 8 mm. Ovary sessile. Fruit narrowly oblong, highly coiled after dehiscence, to 25 x 2 cm; seeds bright red, 10-12 per fruit, 6-10 mm wide.

Range: India and Southeast Asia. Grown for ornament in Paramaribo, Surinam (Pulle, 1906; Ostendorf, 1962), and French Guiana (Lemee, 1952); formerly planted in the Botanic Gardens, Georgetown, Guyana (Department of Agriculture, 1934).

2. *Albizia* Durazzini

Unarmed, deciduous trees or shrubs. Leaves alternate, petiolate, 2-pinnate, with 1 gland at base of petiole and pinnae. Inflorescences of several axillary, long-pedunculate, head-like umbels or cylindrical spikes. Flowers 5-merous, the sepals and petals united below in a tube. Stamens numerous, long-exserted, connate below in a tube. Fruit dehiscent, flat; seeds numerous.

1. *Albizia lebbeck* (Linnaeus) Bentham, *London Journal of Botany* 3: 87 (1844). WOMAN'S TONGUE. Wide-crowned tree to 24 (-30) m x 90 cm. Leaves 7.5-22.5 cm, with 2-8 pairs of pinnae, each with 3-12 pairs of leaflets; leaflets elliptic-oblong, oblique at the base, obtuse, glabrous or puberulent, to 5 x 2 cm. Flowers puberulent, cream- or greenish-yellow, in long-pedunculate, head-like umbels of up to c.40 flowers, c.8 mm wide. Stamens c.30 per flower, thread-like, to 3 cm; anthers not glandular at apex. Fruits narrowly oblong, flat, glabrous, persistent, c.8- to 10-seeded, 15-30 x 3.5-5 cm.


Recommended by Little (pp.51-54, 1983) and the National Academy of Sciences (pp.177-178, 1979; pp.110-111, 1980) for intensified utilization as a firewood crop.

3. *Calliandra* Bentham

Unarmed, evergreen trees or shrubs. Leaves alternate, petiolate, 2-pinnate, eglandular; leaflets oblique at base. Inflorescence of several axillary or terminal, pedunculate heads or umbels. Flowers 5-merous, bisexual or functionally male, the sepals and petals united below in a tube; anthers not glandular. Fruit dehiscent, flat, with thickened margin, the valves coiled after dehiscence; seeds few.

*Key to Species*

1. Leaves with 2 pairs of pinnae; leaflets to 8 cm; filaments red towards the apex
   1. *C. haematocephala*
Fig. 135. *Albizia lebbeck* (Mimosaceae).
1. Leaves with 1 pair of pinnae; leaflets to 2.5 cm; filaments pink towards apex

2. *C. surinamensis*

1. *Calliandra haematocephala* Hasskarl, *Retzia* 21 (1855). (Synonym: *C. inaequilatera* Rusby). RED POWDER PUFF. Sprawling shrub or tree to c.5 m. Leaves with 2 pairs of pinnae; leaflets (4-) 5-10 pairs per pinna, oblong-lanceolate, to 8 cm. Filaments red towards the apex.


2. *Calliandra surinamensis* Bentham, *London Journal of Botany* 3: 105 (1844). OFFICIERSKWASTJE (Surinam); PINK POWDER PUFF. Sprawling or somewhat climbing shrub to c.5 m. Leaves with 1 pair of pinnae; leaflets 7-14 pairs per pinna, oblong-lanceolate, to 2.5 cm. Filaments pink towards apex.

Range: Northern South America, including the three Guianas. Grown for ornament at the Botanic Gardens and Promenade Gardens, Georgetown, Guyana; as a garden hedge in Paramaribo as well as in the sierplanten area of the Cultuurtuin, Paramaribo, Surinam; and in French Guiana (de Granville, 1985A).


*C. calothyrsus* Meissner, described from a type specimen collected in Surinam in the 1800's, has red filaments; it has been suggested for supplementary use in reforestation for fuelwood at high altitudes where leucaena does not prosper (National Research Council, 1983).

4. *Enterolobium* Martius

Unarmed, periodically deciduous trees. Leaves alternate, petiolate, 2-pinnate, with gland at base of pinnae; leaflets numerous, oblique at the base. Inflorescence from a solitary, pedunculate head (capitulum) to clusters or fascicles of heads arranged in a loose panicle. Flowers 5-merous, usually bisexual; sepals and petals united below in a tube. Stamens numerous, exserted, united below in a tube. Fruit indehiscent, flat, the margins not thickened, coiled in a circle (discoid); seeds numerous.

1. *Enterolobium cyclocarpum* (Jacquin) Grisebach, *Flora of the British West Indian Islands* 226 (1860). EAR POD, ELEPHANT'S EAR. Tree to 37.5 m, with trunk to 1.5 (-3) m wide and spreading crown, branched from near the base. Leaves puberulent, with 4-15 pairs of pinnae; leaflets 15-30 pairs per pinna, oblong, glaucous beneath, to 15 x 4 mm. Heads c.2 cm wide, arranged in loose panicles; perianth white to pale green; stamens creamy yellow. Fruit brown to black, reniform, 4-11 cm wide, coiled into an almost full to completely full circle, the curves sometimes overlapping; seeds to 2 x 1 cm.
Fig. 136. *Enterolobium cyclocarpum* (Mimosaceae).
Range: Trinidad; Mexico to Central and northern South America, including (although rare in) Guyana and Surinam. Grown as an ornamental shade and avenue tree in Paramaribo and near Meerzorg, Surinam (Ostendorf, 1962).

This species has been recommended for intensified utilization as a fast-growing multipurpose tree by the National Academy of Sciences (pp.200-201, 1979).

5. **Neptunia** Loureiro

Unarmed, perennial, rhizomatous, sometimes aquatic herbs or subshrubs. Stems prostrate to ascending, simple or few-branched. Leaves alternate, frequently sensitive (folding partially when touched), petiolate, glandular or eglandular, stipulate, 2-pinnate. Inflorescence a solitary (rarely 2), densely flowered, pedunculate, axillary, head-like spike. Flowers dimorphic, the upper ones bisexual, the lower ones staminate with either fertile stamens or sterile, petaloid stamens. Flowers 5-merous; stamens 5 or 10, free, exerted, the anthers usually with an apical gland. Fruit pedicellate, flat, dehiscent, septate between the seeds.

1. **Neptunia oleracea** Loureiro, *Flora Cochinchinensis* 654 (1790). (Synonym: *N. prostrata* (Lamarck) Baillon). WATER MIMOSA. Aquatic, floating or prostrate herb or subshrub. Stems rarely branched, to 1.5 m, the lower internodes becoming spongy-thickened. Leaves eglandular, with 2-3 (-4) pairs of pinnae; leaflets 8-20 pairs per pinna, oblong, to 18 x 3.5 mm. Inflorescence solitary, long-pedunculate, 30- to 50-flowered; flowers green; stamens 10, the anthers lacking an apical gland. Fruit broadly oblong, to 2.8 x 1 cm, 4- to 8-seeded, borne in a spreading cluster.

Range: Tropical Africa; India and Southeast Asia; Mexico to northern South America, including the three Guianas. Grown as an ornamental in Surinam (Ostendorf, 1962).


6. **Pithecellobium** Martius

Armed or unarmed, evergreen trees or shrubs. Leaves alternate, petiolate, 2-pinnate, with 2 to numerous pairs of pinnae; petiole with gland near apex. Inflorescence axillary or at tips of branches, of heads or spikes in a raceme-like panicle. Flowers 5- or 6-merous; sepals and petals united below in a tube; stamens numerous (20-50), united below in a tube. Fruit dehiscent, 2-valved, constricted between the seeds, flat, usually coiled or contorted; seeds with a soft, pulpy aril.

1. **Pithecellobium dulce** (Roxburgh) Bentham, *London Journal of Botany* 3: 199 (1844). MANILA TAMARIND. Spiny tree to 16 m x 60 cm, with spreading crown. Branches with sharp, short spines (reduced stipules) at base of leaves. Leaves with 1 pair of pinnae; leaflets 2 per pinna, elliptical, oblong or obovate, obtuse, glabrous or pubescent, to 6 x 2 cm. Inflorescence pendulous, of densely 5- to 24-flowered heads in a raceme-like panicle. Flowers pubescent, white. Stamens c.50. Fruit spirally coiled, flat, pinkish to reddish-brown,
Range: Trinidad; Mexico to Central and northern South America, including (although rare in) Guyana and Surinam. Grown as an ornamental shade and avenue tree in Paramaribo and near Meerzorg, Surinam (Ostendorf, 1962).

This species has been recommended for intensified utilization as a fast-growing multipurpose tree by the National Academy of Sciences (pp.200-201, 1979).

5. Neptunia Loureiro

Unarmed, perennial, rhizomatous, sometimes aquatic herbs or subshrubs. Stems prostrate to ascending, simple or few-branched. Leaves alternate, frequently sensitive (folding partially when touched), petiolate, glandular or eglandular, stipulate, 2-pinnate. Inflorescence a solitary (rarely 2), densely flowered, pedunculate, axillary, head-like spike. Flowers dimorphic, the upper ones bisexual, the lower ones staminate with either fertile stamens or sterile, petaloid stamens. Flowers 5-merous; stamens 5 or 10, free, exerted, the anthers usually with an apical gland. Fruit pedicellate, flat, dehiscent, septate between the seeds.

1. Neptunia oleracea Loureiro, Flora Cochinchinensis 654 (1790). (Synonym: N. prostrata (Lamarck) Baillon). WATER MIMOSA. Aquatic, floating or prostrate herb or subshrub. Stems rarely branched, to 1.5 m, the lower internodes becoming spongy-thickened. Leaves eglandular, with 2-3 (-4) pairs of pinnae; leaflets 8-20 pairs per pinna, oblong, to 18 x 3.5 mm. Inflorescence solitary, long-pedunculate, 30- to 50-flowered; flowers green; stamens 10, the anthers lacking an apical gland. Fruit broadly oblong, to 2.8 x 1 cm, 4- to 8-seeded, borne in a spreading cluster.

Range: Tropical Africa; India and Southeast Asia; Mexico to northern South America, including the three Guianas. Grown as an ornamental in Surinam (Ostendorf, 1962).


6. Pithecellobium Martius

Armed or unarmed, evergreen trees or shrubs. Leaves alternate, petiolate, 2-pinnate, with 2 to numerous pairs of pinnae; petiole with gland near apex. Inflorescence axillary or at tips of branches, of heads or spikes in a raceme-like panicle. Flowers 5- or 6-merous; sepals and petals united below in a tube; stamens numerous (20-50), united below in a tube. Fruit dehiscent, 2-valved, constricted between the seeds, flat, usually coiled or contorted; seeds with a soft, pulpy aril.

1. *Pithecellobium dulce* (Roxburgh) Bentham, *London Journal of Botany* 3: 199 (1844). MANILA TAMARIND. Spiny tree to 16 m x 60 cm, with spreading crown. Branches with sharp, short spines (reduced stipules) at base of leaves. Leaves with 1 pair of pinnae; leaflets 2 per pinna, elliptical, oblong or obovate, obtuse, glabrous or pubescent, to 6 x 2 cm. Inflorescence pendulous, of densely 5- to 24-flowered heads in a raceme-like panicle. Flowers pubescent, white. Stamens c.50. Fruit spirally coiled, flat, pinkish to reddish-brown,
Fig. 137. *Samanea saman* (Mimosaceae).
5- to 12-seeded; seeds black, shiny, flat, triangular, with pink, fleshy aril.

Range: Mexico to northwestern South America. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana (Index Seminum, 1982).

Introduced as a useful plant in Surinam (Ostendorf, 1962) and French Guiana (Lemee, 1952). Recommended for intensified utilization as a useful fuelwood source by the National Academy of Sciences (pp.144-145, 1980) and Little (pp.219-221, 1983).

7. *Samanea* Merrill

Unarmed, evergreen trees and shrubs. Leaves alternate, petiolate, 2-pinnate; glands present. Inflorescence of axillary, pedunculate, densely-flowered, umbel-like heads. Flowers 5-merous; calyx and corolla united below in a tube; stamens numerous, united below in a tube. Fruit indehiscent, straight or nearly so, partitioned between the seeds; seeds numerous, embedded in pulp.

1. *Samanea saman* (Jacquin) Merrill, *Journal of the Washington Academy of Sciences* 6: 47 (1916). (Synonym: *Pithecellodium saman* (Jacquin) Bentham). REGENBOOM (Surinam); FRENCH TAMARIND, GUANGO (Guyana); RAIN TREE. Tree to 24 (-44) m; branches spreading in an umbrella-shaped crown to 30 (-56) m in breadth. Leaves with 2-8 pairs of pinnae; leaflets 3-8 pairs per pinna, ovate-oblong, falcate, pubescent beneath, the terminal pair markedly the longest and to 6.5 cm, the others to 3.5 cm. Flowers to 50 per head, pinkish-green; stamens to c.3.5 cm, pink above, white below. Fruit narrowly oblong, to c.25-seeded, to 20 x 1.8 cm, black or brown; seeds to 11 x 6 mm.

Range: Tropical America. Grown as an ornamental at the Botanic Gardens, Georgetown and near Timehri, Guyana; in Surinam (Ostendorf, 1962); and in Cayenne, French Guiana.


Cowen (1970) explains that the leaflets "have the remarkable power of changing their position in accordance with atmospheric conditions. In full sunshine they are horizontally spread, allowing no single beam of light to penetrate the dense crown; but at night, in dull weather, or during rain, the pairs of leaflets fold together, the leaf stalks droop and each pinna swivels on its thickened base so that the leaves all lie sideways. In Malaya this drooping of the leaves is considered to portend rain and is the explanation of the name Rain Tree." Recommended for intensified utilization as a fast-growing leguminous tree for reforestation projects, by the National Academy of Sciences (pp.202-203, 1979).

**Moraceae**

Trees, shrubs, vines or herbs; sap usually milky. Leaves alternate, simple, petiolate. Inflorescence of lateral spikes or capitula, or situated within a hollowed, fleshy receptacle (fig). Flowers unisexual, regular; sepals 4, sometimes united below; petals 4, free. Stamens
Fig. 138. *Artocarpus altulis* (Moraceae).
1-4, free. Ovary superior or inferior, 1-celled. Fruit an achene or drupe, sometimes aggregated into a syncarp with fleshy receptacle, or surrounded by a fleshy or fibrous receptacle.

**Key to Genera**

1. Leaves pinnately 3- to 9-lobed, to 90 cm; fruit a syncarp with fleshy receptacle, to 30 cm wide, with pyramidal prickles
   1. *Artocarpus* J.R. Forster & G. Forster

   Monoecious, evergreen or deciduous trees; sap milky. Leaves alternate, simple, petiolate. Female inflorescence an axillary capitulum; male inflorescence an axillary spike or group of spikes. Fruit a large, pulpy syncarp, comprised of flowers with fleshy perianth embedded in a fleshy receptacle.

   1. *Artocarpus altilis* (Parkinson) Fosberg, *Journal of the Washington Academy of Sciences* 31: 95 (1941). BROODVRUCHTBOOM, BREDEBON (Surinam); ARBRE A PAIN (French Guiana); BREADFRUIT. Evergreen tree to 18 m or more. Leaves ovate in broad outline, pinnately 3- to 9-lobed, coriaceous, pale beneath, to 90 cm. Spikes of male inflorescence clavate, yellow, to 30 cm. Fruit globose or ovoid, covered with pyramidal prickles, yellow, to 30 cm wide.

   Range: Malaya. Grown as an ornamental at the Palmentuin and on hotel grounds in Paramaribo, Surinam; and in French Guiana (de Granville, 1985).

2. *Ficus* Linnaeus

   Monoecious or dioecious, evergreen trees, shrubs or woody vines; sap milky. Leaves alternate, simple, petiolate. Inflorescences axillary, solitary or paired, the male and female flowers formed together within a hollowed, fleshy or fibrous receptacle. Fruit an enlarged receptacle (fig) with an apical opening (ostiole).

**Key to Species**

1. Leaves lobed; prostrate-branched shrub
   4. *F. montana*

1. Leaves entire; erect tree or climbing vine.
   2. Climbing vine; fruits pedunculate; leaves on sterile stems to 2.5 cm
      6. *F. pumila*
   2. Erect tree; fruits sessile or shortly pedunculate; leaves 30-90 cm.
   3. Leaves crowded at apex of branches, giving a palm-like appearance, to 90 cm
      5. *F. pseudo-palma*

3. Leaves evenly distributed along branches.
   4. Leaves lyrate (fiddle-shaped), the surface quilted, the margin undulate
      3. *F. lyrata*
   4. Leaves elliptical, oblong or ovate (not lyrate), the surface flat, the margin not undulate.

5. Leaves elliptical, acute, 15-30 cm; emerging leaves enveloped in a pink sheath
Fig. 139. *Ficus benjamina* (Moraceae).
5. Leaves oblong, elliptical or ovate, acuminate or cuspidate, 4-11 cm; emerging leaves without sheath

1. *Ficus benjamina* Linnaeus, *Maniessa Plantarum* 1: 129 (1767). BENJAMIN FIG, WEEPING FIG. Tree to 9 m, developing accessory trunks, aerial roots, and drooping branches. Leaves oblong, elliptical or ovate, acuminate or cuspidate, smooth, 4-11 cm, green or variegated with cream. Fruits sessile, globose, orange or purplish, to c.1.2 cm wide.


1b. *F. benjamina* var. *benjamina*. Leaves green. Range: India, tropical Asia, northern Australia. Grown as an ornamental on hotel and other building grounds, and indoors, in Paramaribo, Surinam; and as an indoor potted plant in Cayenne and at Rochambeau Airport, French Guiana.

2. *Ficus elastica* Roxburgh, *Flora Indica* 3: 541 (1832). RUBBERPLANT (Surinam); CAOUTCHOUC (French Guiana); RUBBER PLANT, INDIA RUBBER TREE. Tree to 12 (-30) m. Leaves elliptical, acute, smooth, 15-30 (-45) cm, green above, yellowish-green beneath. Fruits sessile, ovoid-oblongoid, greenish-yellow, to c.1.2 cm wide.

Range: Nepal, India, Burma. Grown as an ornamental on grounds near New Hope and Timehri, Guyana; on grounds of CELOS buildings at Leysweg and as a street tree in Paramaribo, Surinam; and on hotel grounds in Cayenne and Isle Royale, French Guiana.

3. *Ficus lyrata* Warburg, *Botanische Jahrbucher* 20: 172 (1894). FIDDLE-LEAF FIG. Tree to 12 m. Leaves lyrate (fiddle-shaped) with an obovate or broadly oblanceolate general shape or outline, cordate at the narrowed base, emarginate at the apex, leathery, green, the surface quilted, the margin undulate, to 60 cm; veins prominent, whitish or yellowish-green. Fruits sessile, globose, white-dotted, c.3 cm.

Range: Tropical West Africa. Grown as a tubbed outdoor ornamental on grounds of Torarica Hotel, Paramaribo, Surinam.


5. *Ficus pseudo-palma* Blanco, *Flora de Filipinas* 3: 84 (1879). DRACAENA FIG, PHILIPPINE FIG. Tree to 10 m. Leaves crowded at apex of branches, giving a palm-like appearance, oblanceolate, to 90 cm, long-tapering to the base, coarsely toothed, green. Fruits shortly pedunculate, ovoid, green, to 4 cm.

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Fig. 140. Ficus elastica (Moraceae).
Fig. 141. *Ficus pumila* (Moraceae).
Fig. 142. *Moringa pterygosperma* (Moringaceae).

6. *Ficus pumila* Linnaeus, *Species Plantarum* 1060 (1753). CREEPING FIG, CLIMBING FIG. High-climbing vine, spreading and creeping on flat surfaces, developing aerial roots for attaching to substrate. Leaves dimorphic, hirtellous, those on sterile, creeping stems ovate-cordate and to 2.5 cm, those on fruiting stems elliptical or oblong, to c.10 cm. Fruits pedunculate, pyriform, yellow, to 5 cm.

Range: Southeast Asia, Japan. Grown as an indoor bedding plant in hotel in Paramaribo, Surinam.

**Moringaceae**

Deciduous trees. Leaves alternate, 2- or 3-, and odd-pinnately compound, petiolate. Inflorescence an axillary panicle. Flowers bisexual, slightly irregular; sepals 5, free; petals 5, free, one erect and larger than the others; minute hypanthium present. Fertile stamens 5; staminodes 3-5. Ovary superior, 1-celled, stipitate. Fruit a linear, angular capsule; seeds numerous, often 3-winged.

1. *Moringa* Adanson

Characteristics of the family Moringaceae.

1. *Moringa pterygosperma* Gaertner, *De Fructibus et Seminibus Plantarum* 2(2): 314 (1791). (Synonym: *M. oleifera* Lamarck). Tree to 9 m; roots with smell and taste of horseradish (*Armoracia*). Leaves 2- or 3-pinnate, to 60 cm; leaflets elliptical or obovate, to c.2.5 cm. Petals greenish below, white above. Fruit linear, 3-angled, pendent, to 45 cm; seeds 3-winged.


**Myrtaceae**

Trees and shrubs. Leaves alternate or opposite, simple, often glandular-punctate, subsessile to petiole. Inflorescence a terminal or axillary spike, raceme, umbel, cyme or panicle. Flowers bisexual, regular; sepals 4-5, free, sometimes absent and represented by a bud cap (operculum); petals (0) 4-5, free. Stamens numerous, free or united in fascicles. Ovary inferior or half-inferior, 1- to 3 (or more)-celled. Fruit a woody capsule or berry; seeds few to numerous.
Fig. 143. *Callistemon citrinus* (Myrtaceae).
Key to Genera

1. Inflorescence a cylindrical spike ("bottle-brush", due to long-exserted stamens), the axis growing into a leafy shoot beyond the flowering portion; flowers with distinct sepals and petals, without a bud cap.
   2. Petals red; anthers red; filaments free; bark not spongy
   2. Petals white; anthers yellow; filaments united in 5 fascicles; bark spongy
   1. Inflorescence a panicle (not "bottle-brush"), the axis not growing beyond the flowering portion; flowers often with a bud cap.
   3. Mature leaves alternate; fruit a capsule; bud cap always present
   3. Mature leaves opposite; fruit a berry; bud cap present or absent

1. Callistemon R. Brown

Trees and shrubs. Leaves alternate, simple. Inflorescence of terminal, cylindrical spikes ("bottle-brush") or capitula, the axis growing into a leafy shoot beyond the flowering portion. Sepals united in a 5-lobed calyx-tube; petals 5, free, deciduous. Stamens numerous, free, or united in a basal ring only, long-exserted. Fruit a capsule.

1. Callistemon citrinus (Curtis) Skeels, United States Department of Agriculture, Bureau of Plant Industry Bulletin 282: 49 (1913). (Synonym: Metrosideros citrina Curtis). CRIMSON BOTTLEBRUSH. Shrub or tree to 7.5 m; young branches sericeous. Leaves lanceolate or linear-lanceolate, entire, glabrous, prominently glandular-punctate, to c.9 cm. Inflorescence a cylindrical spike to 10 cm. Petals crimson-red. Stamens red, to 2.5 cm. Fruit globose, c.8 mm.


2. Eucalyptus L’Heritier

Evergreen trees. Leaves alternate (mature) and opposite (juvenile), simple, petiolate. Inflorescence of axillary capitula, or of solitary, axillary flowers. Sepals and petals absent and represented by a bud cap. Stamens numerous, free. Fruit a woody capsule.

Fig. 144. *Melaleuca quinquenervia* (Myrtaceae).
Key to Species

1. Inflorescence a solitary (rarely 3 together) flower; bark bluish; fruit sessile. 2. *E. globulus*

1. Inflorescence a 5- to 10-flowered umbel; bark ashen; fruit pedicellate. 1. *E. camaldulensis*


Range: Australia. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana (*Index Seminum*, 1982); and in the sierplanten area of the Cultuurtuin, Paramaribo, Surinam.

2. *Eucalyptus globulus* Labillardiere, *Novae Hollandiae Plantarum Specimen* 2: 121 (1806). BLUE GUM, TASMANIAN BLUE GUM. Tree to 60 (-80) m; bark bluish. Mature leaves alternate, lanceolate, acuminate, falcate, to 15 (-30) cm; young leaves glaucous-blue. Inflorescence a solitary (rarely 3 together) flower. Bud cap warty. Fruit turbinate, c.2.5 cm wide, sessile.


3. *Melaleuca* Linnaeus

Trees or shrubs. Leaves often alternate, sometimes opposite or whorled, flat to subcylindrical, subsessile. Inflorescence of terminal, cylindrical spikes ("bottle-brush") or capitula, the axis growing into a leafy shoot beyond the flowering portion. Sepals united in a 5-lobed calyx-tube; petals 5, free. Stamens numerous, united in 5 fascicles, long-exserted. Fruit a capsule.


Fig. 145. *Syzygium cumini* (Myrtaceae).
Fig. 146. Syzygium jambos (Myrtaceae).
4. **Syzygium** Gaertner

Evergreen trees. Leaves opposite, simple, petiolate. Inflorescence a terminal or axillary panicle, cyme or raceme. Sepals 4-5, united in a 4- or 5-lobed calyx-tube (tube sometimes truncate); petals 4-5, free or united in a bud cap with a lid. Stamens numerous, free. Fruit a 1-seeded berry.

**Key to Species**

1. Petals united in a bud cap with a lid; fruit purplish-black; filaments 2-6 mm; inflorescence a panicle  
   1. **S. cumini**


   Range: Southeast Asia. Grown as an ornamental on hotel grounds in Paramaribo, Surinam; and in French Guiana (de Granville, 1985).

**Nyctaginaceae**

Trees, shrubs, vines and herbs, sometimes armed. Leaves alternate, opposite or whorled, simple, petiolate. Inflorescence of solitary, capitate, corymbose, paniculate or umbellate flowers; flowers often subtended by sepaloid or foliaceous and colored involucral bracts. Flowers bisexual or unisexual, regular; sepals 5, united in a 5-lobed, often petaloid perianth-tube; petals absent. Stamens (3-) 5 (-10), free. Ovary superior, 1-celled. Fruit a 1-seeded achene, enclosed by the persistent calyx.

**Key to Genera**

1. Shrubby vines; plants often armed; leaves alternate; involucral bracts large, colored; perianth-tube cylindrical; achene linear  
   1. **Bougainvillaea**
Fig. 147. *Bougainvillaea spectabilis* (Nyctaginaceae).
1. Perennial herbs; plants unarmed; leaves opposite; involucral bracts small, sepalooid, green; perianth-tube funnelform or salverform; achene ellipsoid to globose. 2. *Mirabilis*

1. *Bougainvillaea* Commerson ex Jussieu

Shrubby vines, sometimes small trees, often armed. Leaves alternate, simple, petiolate. Inflorescence of solitary, 3-bracteate flowers, or of 3-flowered clusters with each flower subtended by a large, colorful bract adnate to the pedicel. Sepals 5, united in a cylindrical perianth-tube. Stamens 5-10. Fruit an elongated achene.

*Key to Species*

1. Perianth-tube distinctly 5-angled below, with antrorsely curved hairs to 0.5 mm; leaves and stems glabrate. 1. *B. glabra*
2. Perianth-tube veined but not distinctly angular below, with spreading, straight hairs to 1 mm; leaves and stems villous. 2. *B. spectabilis*

1. *Bougainvillaea glabra* Choisy in DeCandolle, *Prodromus Systematis Naturalis Regni Vegetabilis* 13(2): 437 (1849). BOUGAINVILLE (Surinam); BOUGAINVILLAEA. Shrubby vine; stems long, weakly spinose or unarmed. Leaves narrowly ovate to elliptical, glabrate, to 10 cm. Bracts ovate or oblong-ovate, purple or magenta, to c.5 cm. Perianth-tube distinctly 5-angled below, with appressed, antrorsely curved hairs to 0.5 mm, greenish.

Range: Brazil. Grown as an ornamental in Georgetown, Guyana, and on hotel grounds in Paramaribo, Surinam.

2. *Bougainvillaea spectabilis* Willdenow, *Species Plantarum* ed. 4, 2: 348 (1799). BOUGAINVILLE (Surinam); BOUGAINVILLIER, BOUGAINVILLEE (French Guiana); BOUGAINVILLAEA. Shrubby vine; stems long, armed with stout, recurved spines. Leaves ovate, villous beneath, to 10 cm. Bracts pink, salmon, purple or white, to c.5 cm. Perianth-tube veined but not distinctly angular below, with spreading, straight hairs to 1 mm, yellowish above.

Range: Brazil. Grown as an ornamental at the Promenade Gardens and the Botanic Gardens, Georgetown, Guyana; in a garden in Paramaribo, Surinam; and in French Guiana (de Granville, 1985).

2. *Mirabilis* Linnaeus

Unarmed annual or perennial herbs; roots usually tuberous. Leaves opposite, simple, petiolate. Inflorescence of axillary corymbs or panicles, the flowers ultimately 1-few subtended by a 5-lobed, sepaloid involucre. Sepals 5, united in a funnelform or salverform, petaloid perianth-tube. Stamens 5-6. Fruit an ellipsoid to globular achene.

1. *Mirabilis jalapa* Linnaeus, *Species Plantarum* 177 (1753). NACHTSCHONE, VIERUURSBLOEM (Surinam); FOUR O’CLOCK, MARVEL OF PERU. Perennial herb to 90 cm; roots tuberous. Leaves ovate or ovate-lanceolate, entire, glabrate, to 14 cm. Perianth-tube funnelform or salverform, in various shades of pink, red, yellow or white, to 5
Fig. 148. *Mirabilis jalapa* (Nyctaginaceae).
cm.


Nymphaeaceae

Perennial aquatic herbs; tuberous anchoring rhizomes often present. Leaves simple, orbicular or nearly so, aerial, floating or submerged, often long-petiolate. Inflorescence of axillary, solitary flowers. Flowers bisexual, regular; sepals 4-6, free or united at the base; petals (6) numerous, free, often intergrading into the stamens. Stamens numerous, spirally arranged, free. Ovary superior; carpels 3 - numerous, free or united, sometimes free and embedded in the enlarged receptacle. Fruit a berry or berry-like capsule, or an aggregate fruit arising from the enlarged capsule.

Key to Genera

1. Flowers and leaf-blades aerial; leaf-blades without a basal sinus; fruits (carpels) free, aggregated and sunken into the top of an expanded, obconical receptacle  
   1. *Nelumbo*

1. Flowers and leaf-blades floating; leaf-blades with a basal sinus, at least when young; fruits (carpels) not in an expanded receptacle.

2. Leaves small or medium, to c.45 cm wide, with flat margin, smooth or at most the petioles rugose (roughened), not peltate  
   2. *Nymphaea*

2. Leaves large, to 1.9 m wide, with upturned margin, prickly beneath and with prickly petioles, peltate  
   3. *Victoria*

1. *Nelumbo* Adanson

Aquatic herbs; rhizomes often tuberous. Leaves orbicular or nearly so, peltate, long-petiolate, the blade aerial. Flowers solitary, aerial and higher than the leaf-bases; sepals 4-5; petals numerous, free; stamens numerous. Receptacle enlarged, obconical, with flat, circular top in which c.14-25 pistils are embedded, each protruding through a circular pore; carpels 1-seeded.

1. *Nelumbo nucifera* Gaertner, *De Fructibus et Seminibus Plantarum* 1: 73 (1788). SACRED LOTUS, EAST INDIAN LOTUS. Plant to 2.1 m. Leaves raised to 1.8 m above the water, the blade orbicular or ellipsoid, glaucous, entire, peltate, often with gently sinuate margin and depressed slightly in the center, to 75 (-90) cm wide; petiole rugose. Pedicel rugose; flowers borne higher than the leaves, to 30 cm wide, pink, or sometimes whitish.

Range: Asia to Australia. Grown as an ornamental at the Botanic Gardens, Georgetown, and by Hindus in roadside canals near Georgetown, Guyana, and in roadside canals near Domburg, Surinam.

The perfection and purity of the flower is revered by devotees of Hinduism and Buddhism.
Fig. 149. *Nelumbo nucifera* (Nymphaeaceae).
2. *Nymphaea* Linnaeus

Aquatic herbs; rhizome often tuberous. Leaves orbicular or nearly so, with a basal sinus, long-petiolate, the blades floating. Flowers solitary, floating or borne slightly above water surface; sepals 4; petals numerous, free; stamens numerous (20-700). Receptacle not enlarged. Fruit a depressed-subglobose, berry-like capsule; seeds numerous, minute.


**Key to Species**

1. Flowers diurnal (open in daytime).
   2. Leaves to 45 cm wide, entire to irregularly dentate; sepals marked with blackish lines; ovary with incompletely fused carpels
      2. *N. ampla*
   2. Leaves to 25 cm wide, entire; sepals without lines; ovary with free carpels
      3. *N. odorata*

1. Flowers nocturnal (open at night).
3. Leaves entire, to 26 cm wide; sepals marked with blackish lines; petals creamy-white
   1. *N. amazonum*
3. Leaves irregularly dentate, to 36 (-45) cm wide; sepals without lines; petals creamy-white to pale yellow, tinged pink
   4. *N. rudgeana*

Note: Unidentified blue-flowered and lavender-flowered plants are respectively grown at the Botanic Gardens, Georgetown, Guyana, and indoors in a hotel pool in Paramaribo, Surinam.


Range: Tropical America, including the three Guianas. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana; and in Surinam (Ostendorf, 1962).

2. *Nymphaea ampla* (Salisbury) DeCandolle, *Regni Vegetabilis Systema Naturale* 2: 54 (1821). WATERLELIE (Surinam); PANKOEKOE-WIWIRI (Surinamese Creole); WHITE WATER LILY. Leaves suborbicular or broadly elliptical, light green above, dull green to reddish beneath, both surfaces slightly reddish-flecked, entire to irregularly dentate, to 45 cm wide. Flowers diurnal, white, to 13 cm wide.


3. *Nymphaea odorata* Solander in Aiton, *Hortus Kewensis* ed.1, 2: 227 (1789). WHITE WATER LILY, FRAGRANT WATER LILY. Leaves orbicular, green above, purplish
Fig. 150. *Nymphaea amazonum* (Nymphaeaceae).
beneath, entire, to 25 cm wide. Flowers diurnal, white, to 15 cm wide.


3. *Victoria* Lindley

Giant aquatic herbs; plants prickly; rhizomes tuberous. Leaves orbicular, peltate, long-petiolate, floating, the margin upturned. Flowers solitary, floating; sepals 4; petals numerous free; stamens numerous. Receptacle not enlarged. Fruit an urceolate berry.


1. *Victoria amazonica* (Poeppig) Sowerby, *Annals and Magazine of Natural History* ser.2, 6: 310 (1850). (Synonym: *V. regia* Lindley). ROYAL WATER LILY. Leaves orbicular, green and reticulate-rugose above, purple or green and prickly on raised ribs beneath, to 1.9 m wide, the margin upturned to 15 cm high; petiole to 5.1 m, prickly. Sepals prickly. Flowers opening white, changing to pink or rose, to 45 cm wide. Fruit prickly.

Range: Amazonian South America, including Guyana. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana.

Fig. 151. *Victoria amazonica* (Nymphaeaceae).
Ochnaceae

Trees, shrubs and herbs. Leaves alternate, simple, petiolate. Inflorescence an axillary raceme, umbel, corymb or panicle, or the flowers solitary and axillary. Flowers bisexual, regular; sepals 5-6, free; petals 5-12, free. Stamens 5-numerous, free or united at the base. Ovary superior, 2- to 5- (15-) celled, sometimes lobed. Fruit of 1-seeded drupes clustered around an enlarged receptacle, rarely a berry.

1. Ochna Linnaeus


1. Ochna mossambicensis Klotzsch in Peters, Naturwissenschaftliche Reise Nach Mossambique 6(1): 88, t.16 (1861). BIRDS-EYE BUSH. Shrub to 3 m. Leaves obovate or oblanceolate, coriaceous, serrulate, to 22.5 cm. Inflorescence an ample panicle. Calyx red in fruit. Petals yellow, c.1.5 cm. Fruit of 8-10 drupes.


Oleaceae

Evergreen or deciduous trees and shrubs, sometimes dioecious. Leaves opposite or alternate, appearing simple or pinnately compound, petiolate. Inflorescence a terminal or lateral raceme, panicle or cyme, or of solitary, axillary flowers. Flowers bisexual, or unisexual and plants dioecious, regular; sepals (0) 4 (-9), united in a 4- (to 9-) lobed calyx-tube; petals (0) 4 (-9), often united in a 4- (-9) lobed corolla-tube. Stamens 2. Ovary superior, 2-celled. Fruit a capsule, drupe, berry or samara.

1. Jasminum Linnaeus

Evergreen or deciduous shrubs, sometimes climbing. Leaves opposite or alternate, once- and odd-pinnately compound, or appearing simple. Inflorescence a terminal or axillary cyme, or flowers solitary. Calyx-lobes 4-9, unequal. Corolla 4- to 9-lobed, salverform. Fruit a 2-lobed berry, often twinned but usually one of them aborting.

Key to Species

1. Leaves pinnately compound with 5-9 leaflets, deciduous or semi-evergreen 2. J. officinale
1. Leaves appearing simple, with 1 "leaf" (leaflet), evergreen.
   2. Calyx-teeth to c.1.2 cm; leaves pubescent beneath; inflorescence a dense capitate cyme, terminal on short side-branches 1. J. multiflorum
   2. Calyx-teeth c.5 mm; leaves glabrous beneath; inflorescence a terminal few-flowered cyme 3. J. sambac

(1807). MELATI GAMBIR (Surinamese Malaysian); PONTJOSOEDO (Surinamese Javan); STAR JASMINE. Evergreen climbing shrub to 2 m or more. Leaves opposite, appearing simple with 1 "leaf" (leaflet), ovate, cordate, pubescent beneath, to c.7.5 cm. Inflorescence a dense capitate cyme, terminal on short side-branches. Calyx-teeth to c.1.2 cm. Corolla white.

Range: India. Grown as an ornamental in Surinam (Ostendorf, 1962); and on hotel grounds in Cayenne, French Guiana.

2. *Jasminum officinale* Linnaeus, *Species Plantarum* 7 (1753). COMMON JASMINE, POET'S JESSAMINE. Deciduous or semi-evergreen climbing shrub to 12 m. Leaves opposite, pinnately compound with (3-) 5-9 leaflets; leaflets oblong-ovate, glabrous or glabrate, to c.6.5 cm. Inflorescence of terminal and axillary few-flowered cymes, or flowers solitary. Calyx-teeth to c.1.2 cm. Corolla white.


3. *Jasminum sambac* (Linnaeus) Aiton, *Hortus Kewensis* 1: 8 (1789). ARABISCHE JASMIJN (Surinam); MELATI (Surinamese Malaysian); MLATI (Surinamese Javan); ARABIAN JASMINE. Evergreen climbing shrub to c.1.5 m. Leaves opposite, appearing simple with 1 "leaf" (leaflet), ovate, oblong or cordate, glabrous, to 9 cm. Inflorescence a terminal few-flowered cyme. Calyx-teeth c.5 mm. Corolla white.


**Oxalidaceae**

Herbs or shrubs. Leaves alternate, palmately (digitately) or pinnately compound, petiolate. Inflorescence of axillary umbels, racemes or cymes, or of solitary, axillary flowers. Flowers bisexual, regular; sepals 5, free or united below. Ovary superior; 5-celled; stigmas 5. Fruit a capsule or berry.

1. *Oxalis* Linnaeus

Annual or perennial herbs or shrubs; rhizomes, bulbs or tubers sometimes present. Leaves alternate, all basal, or with cauline leaves present, palmately or pinnately compound with 3 to numerous leaflets. Inflorescence a long-pedunculate (scapose) umbel or subumbellate cyme. Sepals 5; petals 5; stamens 10, in 2 unequal series. Fruit a capsule.

1. *Oxalis adenophylla* Gillies in W.J. Hooker, *Botanical Miscellany* 3: 165 (1833). Perennial, scapose herb to 15 cm; base bulbous. Leaves digitately compound; leaflets (9-) 12 (-22), obcordate, glaucous, glabrous, c.1.2 cm; petioles to 12.5 cm. Inflorescence a 1- to 3-flowered umbel; peduncles to 30 cm. Flowers pink, with purple base, to c.3.7 cm wide.

Papaveraceae

Annual or perennial herbs; sap usually colored or milky. Leaves alternate, simple and entire, to deeply pinnatifid or palmately cleft, clasping or subsessile to petiolate. Inflorescence of terminal or axillary, solitary, long-pedicellate flowers. Flowers regular, bisexual; sepals 2-3, often united below; petals 4-12, free, crumpled in bud. Stamens numerous, free. Ovary superior, 1-celled. Fruit a valvate or terminally porose, armed or unarmed capsule; seeds numerous, small.

1. **Argemone** Linnaeus

Annual or perennial herbs; sap yellow. Leaves pinnately compound, prickly. Sepals 2-3, with an apical spine; petals 4-6. Fruit a 3- to 6-valved, prickly or spiny capsule.

1. *Argemone mexicana* Linnaeus, *Species Plantarum* 508 (1753). STEKELPAPAVER, MEXICAANSE PAPAVER (Surinam); MEXICAN POPPY, PRICKLY POPPY. Annual herb to 1 m; stem prickly. Leaves coarsely pinnatifid to various degrees, spiny, glaucous, with white mottlings and blue veins, to 20 cm, the upper leaves clasping the stem. Sepals 3; petals 6, orange or pale yellow; flowers to 6.5 cm wide. Fruit spiny, to 5 cm.

Range: Florida to Central America; West Indies. Grown as an ornamental in Surinam (Ostendorf, 1962).

Phytolaccaceae

Herbs, shrubs or trees, sometimes climbing. Leaves alternate, simple, sessile to petiolate. Inflorescence a terminal or lateral raceme or spiciform raceme. Flowers bisexual or unisexual, regular; sepals 4 (5), united below in a 4- or 5-lobed calyx, sometimes solely comprising the perianth; petals 0-5. Stamens 3-25, free. Ovary superior or half-inferior, 1- to 16-celled; carpels free or united. Fruit a berry, achene, capsule or drupe; seeds 1-numerous.

**Key to Genera**

1. Flowers distant, very shortly (c.1 mm) pedicellate; petioles to 20 cm; fruit an oblong, dry, apically and retrorsely bristly, achene; crushed plant with garlic or onion odor. *Petiveria*
   1. Flowers approximate, with pedicel to 3 mm in flower and to 0.8-1.5 cm in fruit; petioles to 6 cm; stamens 4; fruit an ovoid, juicy, smooth and glabrous, drupe; crushed plant not odoriferous
   2. *Rivina*

1. *Petiveria* Pluermier ex Linnaeus

Subshrubs or herbs. Leaves alternate, shortly petiolate. Inflorescence a spiciform raceme. Calyx 4-lobed; petals absent; stamens 4-8. Ovary 1-celled. Fruit an achene, with retrorse apical bristles.

Herb to 2 m, shrubby at the base, with odor of garlic or onion when crushed. Leaves elliptical or ovate, entire, pellucid-punctate, to 16 (-20) cm. Inflorescence to 45 cm. Flowers white, greenish or pinkish. Fruit oblong, with 4-6 apical, retrorse bristles, c.1 cm.


2. *Rivina* Linnaeus

Subshrubs or herbs. Leaves alternate, petiolate. Inflorescence a raceme. Calyx 4-lobed; petals absent; stamens 4. Ovary 1-celled. Fruit a drupe, with persistent calyx.

1. *Rivina humilis* Linnaeus, *Species Plantarum* 121 (1753). BLOODBERRY, ROUGE PLANT. Herb to 1.2 m, often shrubby at the base. Leaves ovate or oblong, entire or nearly so, glabrous or pubescent, to 13 cm. Inflorescence to 20 cm. Flowers white, greenish or pinkish. Fruit ovoid, smooth, reddish or black, to 5 mm wide.


*Piperaceae*

Perennial herbs or shrubs, sometimes climbing, often sub-succulent. Leaves alternate, sometimes opposite or whorled, simple, petiolate. Inflorescence a densely flowered, terminal or axillary spike. Flowers bisexual or unisexual, 1-bracteate; sepals and petals absent. Stamens 1-10, free. Ovary superior, 1-celled. Fruit a 1-seeded berry.

*Key to Genera*

1. Non-climbing herb; stems not swollen at the nodes; leaves equal at the base; plants monoecious

   1. *Peperomia*

1. Climbing shrub or shrubby vine; stems swollen at the nodes; leaves unequal at the base; plants dioecious

   2. *Piper*

1. *Peperomia* Ruiz & Pavon

Sub-succulent herbs. Leaves alternate, opposite or whorled, simple, palmately veined from base of the blade, petiolate. Inflorescence of terminal or axillary spikes. Flowers unisexual, 1-bracteate, sessile. Stamens 2. Stigma 1, often bifid. Fruit a 1-seeded berry.

*Key to Species*

1. Leaves bluish-green, variegated with wide silvery bands
   3. *P. verschaffeltii*

1. Leaves all-green.
   2. Leaves obovate-spathulate, 5-7 (-20) cm
   2. *P. obtusifolia*
2. Leaves ovate or lanceolate, 5 cm or less (-6.3 cm)  

1. *Peperomia glabella* (Swartz) A. Dietrich in Linnaeus, *Species Plantarum* ed.6, 1: 156 (1831), var. *glabella*. Herb to 15 cm. Leaves alternate, ovate or lanceolate, the base acute or acuminate, green, to 5 cm or less (-6.3 cm). Inflorescence of solitary spikes to 15 cm.


2. *Peperomia obtusifolia* (Linnaeus) A. Dietrich in Linnaeus, *Species Plantarum* ed.6, 1: 154 (1831). COMMON PEPEROMIA. Herb to 30 cm. Leaves alternate, obovate-spathulate, the base cuneate or rounded, green, 5-7 (-20) cm. Inflorescence of solitary or paired spikes to 15 cm.

Range: Southern Florida and tropical America. Grown as a potted ornamental on hotel grounds in Georgetown, Guyana, and in outdoor and indoor settings on hotel grounds in Paramaribo, Surinam.


2. *Piper* Linnaeus

Shrubs, vines or trees; stems often swollen at the nodes. Leaves alternate, simple, often unequal at the base, petiolate; petiole often sheathing below. Inflorescence of axillary spikes, often opposite the leaves. Flowers bisexual or unisexual, 1-bracteate, sessile. Stamens 2-5. Stigmas 2-4. Fruit a 1-seeded berry.

1. *Piper betle* Linnaeus, *Species Plantarum* 28 (1753). BETEL NUT. Evergreen, dioecious, climbing shrub or shrubby vine. Leaves ovate-orbicular or oblong-ovate, cordate and unequal (oblique, inequilateral) at the base, to 17.5 cm. Inflorescence of solitary spikes, the female to 7.5 cm, the male to 15 cm.

Range: India, Southeast Asia to Malaysia. Grown as an ornamental at the Promenade Gardens, Georgetown, Guyana.


Plumbaginaceae

Evergreen shrubs, climbers or perennial herbs, sometimes rosette plants. Leaves in a
Fig. 152. *Argemone mexicana* (Papaveraceae).
Fig. 153. *Plumbago zeylanica* (Plumbaginaceae).
basal rosette, or cauline and alternate, simple, sessile to petiolate. Inflorescence terminal, lateral or scapose, of spikes, racemes, panicles or heads. Flowers bisexual, regular; sepals 5, united in a tubular or funnelform, 5-toothed, often scarious calyx; petals 5, united in a tubular, 5-lobed corolla. Stamens 5, free. Ovary superior, 1-celled; styles 5, free or united. Fruit a capsule, sometimes indehiscent.

1. *Plumbago* Linnaeus

Shrubs, climbing shrubs or perennial herbs. Leaves cauline, alternate, simple, often auriculate or clasping the stem. Inflorescence a terminal raceme, spike or panicle, the flowers subtended by 2 unequal bracts. Calyx-tube 5-ribbed, the ribs with stalked glands. Corolla-lobes spreading. Fruit a 1-seeded, 5-angled capsule.

*Key to Species*

1. Corolla red, the tube 4 times longer than the calyx; leaves to 20 cm; inflorescence to 60 cm
   2. *P. indica*

1. Corolla white or blue, the tube 2-3 times longer than the calyx; leaves to 7.5 cm; inflorescence to 30 cm.
   2. Corolla blue, the tube 3 times longer than the calyx; stems erect or semi-scandent; calyx-ribs stipitate-glandular above, smooth below
      1. *P. auriculata*
   2. Corolla white, the tube 2 times longer than the calyx; stems scandent; calyx-ribs stipitate-glandular throughout
      3. *P. zeylanica*

1. *Plumbago auriculata* Lamarck, *Encyclopedia Methodique. Botanique* 2: 270 (1786). (Synonym: *P. capensis* Thunberg). MANNETROUW (Surinam); CAPE LEADWORT. Shrubs with erect or semi-scandent (clambering) stems to 6 m. Leaves oblong or spatulate-oblong, to 7.5 cm, shortly petiolate. Inflorescence a terminal raceme to c.30 cm. Calyx-ribs stipitate-glandular above, smooth below. Corolla pale blue, the tube 3 times longer than the calyx.

Range: Southern Africa. Grown as an ornamental at the Promenade Gardens, Georgetown, Guyana, and on University grounds in Paramaribo, Surinam.

2. *Plumbago indica* Linnaeus, *Herbarium Amboinense* 24 (1754). (Synonym: *P. rosea* Linnaeus). SCARLET LEADWORT. Shrubs with semi-scandent (clambering) stems to c.60 cm or more. Leaves oblong or ovate-elliptical, to 60 cm. Calyx-ribs stipitate-glandular throughout. Corolla red, the tube 4 times longer than the calyx.


3. *Plumbago zeylanica* Linnaeus, *Species Plantarum* 151 (1753). Shrubs with scandent (climbing) stems to 1 m. Leaves ovate or oblong, to c.7 cm, shortly petiolate. Inflorescence a terminal panicle or raceme to c.30 cm. Calyx-ribs stipitate-glandular throughout. Corolla white, the tube 2 times longer than the calyx.

Range: Southeast Asia. Grown as an ornamental at the Botanic Gardens, Georgetown,
Guyana, and on grounds of Zanderij Airport, Surinam.

Polemoniaceae

Annual, or evergreen or deciduous perennial herbs, or subshrubs; rarely vines. Leaves alternate or opposite, simple or pinnately compound, sessile or petiolate. Inflorescence a terminal or axillary corymb, cyme, panicle or capitulum, or of solitary, axillary flowers. Flowers bisexual, regular or nearly so; sepals 5, united in a 5-lobed calyx; petals 5, united in a 5-lobed corolla. Stamens 5. Ovary superior, 2- to 5-celled. Fruit a capsule; seeds few to numerous.

1. Phlox Linnaeus

Annual or perennial herbs or subshrubs. Leaves opposite below, often alternate above. Inflorescence a terminal corymb, cyme or panicle, or flowers solitary. Corolla salverform. Stigmas 3. Fruit a 3-valved capsule.

1. Phlox drummondii W.J. Hooker, in Curtis’s Botanical Magazine 62: t.3441 (1835). ANNUAL PHLOX, DRUMMOND PHLOX. Annual, glandular-pubescent herb to 50 cm. Leaves ovate, oblong or lanceolate, entire, to 7.5 cm. Inflorescence of densely flowered corymbs or cymes. Flowers pink, red, purple or white, to 2.5 cm wide.


Polygalaceae

Trees, shrubs, climbing shrubs, and herbs. Leaves alternate, simple, petiolate. Inflorescence of solitary, axillary flowers, or of terminal or axillary spikes, racemes or panicles. Flowers bisexual, irregular, sometimes cleistogamous (not opening); sepals 5, the 2 inner ones resembling petals or wings; petals 3-5, the 2 upper ones free, connate or adnate to the stamens, the lower one (keel) fringed or cristate. Stamens 6-8, in 2 series, the filaments united in a sheath split down one side. Ovary superior, 1- or 2-celled. Fruit a drupe, nut, capsule or samara; seeds often arillate.

1. Securidaca Linnaeus

Climbing shrubs, the branches acting as encircling tendrils. Leaves alternate, simple, entire; stipules glandular. Inflorescences terminal and axillary, of racemes often arranged in panicles. Flowers irregular; petals 3, the keel 2-lobed, clawed, cristate. Stamens 8. Ovary 1-celled. Fruit an indehiscent, winged samara, often with 1 primary, large wing and 1 very much smaller wing.


Key to Species

1. Leaves acute or obtuse, to 8 cm; petals to 1 cm; fruit to 5 cm, the wing to 4.5 cm

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Fig. 154. *Phlox drummondii* (Polemoniaceae).
1. Leaves acuminate, to 15 cm; petals 6-7 mm; fruit to 3 cm, the wing to 2 cm

2. S. paniculata

1. Securidaca diversifolia (Linnaeus) S.F. Blake, Contributions from the United States National Herbarium 23: 594 (1923). SOEKROEDJANI (Surinam). Climbing shrub to 30 m. Leaves ovate, lanceolate, elliptical, or oblong, acute or obtuse, to 8 cm. Petals rose-pink or purple, to 1 cm. Fruit to 5 cm, the nut puberulent, the primary wing to 4.5 cm.

Range: West Indies; Mexico to South America, including the three Guianas. Grown as an ornamental in Guyana (Ted Hubbard, pers. comm., 1986) and in Surinam (Ostendorf, 1962); also occurring along a ditch in the Cultuurtuin, Paramaribo, Surinam (Lindeman 5723 (US)).

2. Securidaca paniculata Richard, Actes de la Societe d'Histoire Naturelle de Paris 1: 111 (1792), var. paniculata. Climbing shrub to 25 m, sometimes a tree. Leaves oblong or broadly elliptical, acuminate, to 15 cm. Petals pink or violet, 6-7 mm. Fruit to 3 cm, the nut puberulent, the primary wing to 2 cm.


Polygonaceae

Trees, shrubs, vines or herbs; stems jointed and swollen at the nodes. Leaves alternate, simple, sessile or petiolate; stipules united in a tubular sheath (ochrea) around the stem. Inflorescence of terminal or axillary spikes, racemes or panicles. Flowers bisexual or unisexual, regular; sepals 2-6, free or united below in a 2- to 6-lobed calyx-tube; petals absent. Stamens 6-9. Ovary superior, 1-celled. Fruit a lenticular or 3-angled achene, often with persistent calyx, sometimes covered by pulp.

Key to Genera

1. Vine climbing by tendrils; flowers bisexual, pink or coral-red
   1. Antigonon

1. Tree or shrub, non-climbing; flowers unisexual, white or cream, sometimes turning red or pink.
   2. Stems flat, ribbon-like, segmented
   3. Homalocladium
   2. Stems round.

3. Fruit globose, pulpy, berry-like, not winged; leaves orbicular or subreniform
   2. Coccoloba

3. Fruit 3-angled, with 3 wings to 3.8 cm, not pulpy and berry-like; leaves oblong or nearly so
   4. Triplaris

1. Antigonon Endlicher

Vines climbing by tendrils. Leaves alternate. Inflorescence an axillary raceme with terminal, branched tendril. Flowers bisexual; sepals 5, petaloid; stamens 8; styles 3. Fruit a 3-angled achene.

1. Antigonon leptopus Hooker & Arnott, The Botany of Captain Beechey's Voyage 308:
Fig. 155. *Antigonon leptopus* (Polygonaceae).
t.69 (1838). BRUIDSTRANEN, KRANSBLOEM, CORALLITA (Surinam); CORAL VINE, LOVE VINE. Evergreen vine climbing to 15 m; tubers present. Leaves sagittate, hastate or cordate-ovate, entire but crisped, glabrous, to 12.5 cm. Inflorescence an axillary raceme. Flowers pink or coral-red. Fruit prominently angled at the apex.


2. Coccoloba P. Browne

Evergreen or deciduous trees, shrubs or vines, usually dioecious. Leaves alternate. Inflorescence of axillary or terminal spikes, racemes or panicles. Flowers unisexual; sepals 5; stamens 7-8. Fruit a striate achene, covered by pulp, berry-like.

1. Coccoloba uvifera Linnaeus, Systema Naturae ed.10, 2: 1007 (1759). ZEEDRUIF, SCHUSTERDRUIF, ZUSTERDRUIF (Surinam); SEA GRAPE. Evergreen tree to 6 (-15) m. Leaves orbicular or subreniform, cordate at the base, entire, undulate, coriaceous, to 20 cm wide. Inflorescence a densely flowered raceme to 25 cm. Flowers white, c.3.5 cm wide. Fruit purple, globose, pulpy, berry-like, in pendent clusters.

Range: Southern Florida to South America. Occasionally grown as an ornamental in front gardens along airport road near Timehri, and at the nursery in the Botanic Gardens, Georgetown, Guyana; and as a garden tree in Paramaribo, Surinam.

3. Homalocladium (F.J. Mueller) L.H. Bailey

Evergreen shrubs. Stems flat, ribbon-like, segmented (articulated), striate, often leafless at anthesis. Leaves alternate. Inflorescence of sessile fascicles at alternate joints of the stem. Flowers unisexual; sepals 5; stamens 8; styles 3. Fruit a 3-angled achene, enclosed by enlarged calyx.

1. Homalocladium platycladum (F.J. Mueller) L.H. Bailey, Gentes Herbarum 2: 58 (1929). (Synonym: Muehlenbeckia platyclada (F.J. Mueller) Meissner). RIBBON BUSH, TAPEWORM PLANT. Erect shrub; stems to 3.6 m, flat, ribbon-like, green, to c.1.2 cm wide. Leaves borne at stem-margin, oblong-lanceolate or hastate, glabrous, to c.6.5 cm. Flowers minute, white. Fruit enclosed by purplish, enlarged calyx, c.3 mm.


4. Triplaris Loefling

Dioecious trees or shrubs. Leaves alternate. Inflorescence a panicle of spiciform racemes. Flowers unisexual, regular, subtended by a bract; sepals 6, 3 prominently winged, in the female flowers united below in a 3-lobed calyx-tube, in the male flowers united below in a 6-lobed calyx-tube; stamens 9. Fruit a 3-angled achene, 3-winged from the persistent calyx.
Fig. 156. *Coccoloba uvifera* (Polygonaceae).
Fig. 157. Coccoloba uvifera (Polygonaceae).
1. *Triplaris surinamensis* Chamisso, *Linnaea* 8: 138 (1833). MIRA-OEDOE, DON-OEDOE (Surinamese Creole); JEKOENA (Surinamese Arawak); TASSI (Surinamese Carib); LONG JOHN. Narrowly buttressed tree to 25 m; stems hollow, in nature inhabited by ants. Leaves oblong, elliptic-oblong or ovate, entire, prominently veined, to 35 cm. Female flowers cream or greenish-white, turning pink or red. Winged sepals to 3.8 (-5) cm.


**Portulacaceae**

Annual or perennial herbs, or subshrubs. Leaves alternate or opposite, simple, often succulent, sessile or petiolate. Inflorescence of terminal or lateral racemes or cymes, or the flowers axillary and solitary. Flowers bisexual, regular; sepals 2, free or united below; petals (4) 5 (-18), free, caducous. Ovary superior, 1-celled at least above. Fruit a capsule; seeds numerous.

1. *Portulaca* Linnaeus

Annual herbs. Leaves alternate, often crowded above in a foliar involucre. Calyx deeply 2-cleft; petals (4) 5 (6); stamens 8 or more. Fruit an operculate capsule.

1. *Portulaca grandiflora* W.J. Hooker, in *Curtis's Botanical Magazine* 56: t.2885 (1829). PORTULAK, TIENUURSKLOKJE (Surinam); POURPIER (French Guiana); ROSE MOSS. Annual herb; stems ascending or prostrate, to 30 cm. Leaves linear-cylindrical, acuminate, fleshy, to 2.5 cm. Flowers white, pink, purple, red or yellow, sometimes striped, to c.2.5 cm wide. Fruit conical.

Range: Brazil, Argentina, Uruguay. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana, at the Esther Stichting near Paramaribo, Surinam, and at the Jardin Botanique, Cayenne, French Guiana.

**Proteaceae**

Evergreen trees, shrubs and herbs. Leaves alternate, simple or pinnately 1- or 2-compound, sessile or petiolate. Inflorescence of terminal or axillary heads, fascicles, spikes or racemes, often subtended by a collar of involucral bracts. Flowers bisexual or unisexual, irregular; perianth-segments (sepals) 4, united below in an apically recurved tube. Stamens 4, comprising a sessile anther near apex of each perianth-segment. Ovary superior, 1-celled. Fruit a capsule, follicle, drupe or nut, often beaked.

1. *Grevillea* R. Brown

Trees and shrubs. Leaves pinnately compound, or simple and often pinnately cleft or divided. Inflorescence a terminal raceme or panicle. Flowers bisexual, paired; styles elongated and conspicuous. Fruit a coriaceous follicle.
Fig. 158. *Grevillea robusta* (Proteaceae).
1. *Grevillea robusta* A. Cunningham in R. Brown, *Supplementum Primum Prodromi Florae Novae Hollandiae* 24 (1830). SILK OAK. Tree to 45 m; stems silvery-pubescent. Leaves 1- or 2-pinnately compound, fern-like, silvery-pubescent beneath, to 22.5 (-45) cm; leaflets lanceolate, entire to lobed, with revolute margin, to 5 cm. Inflorescence a second raceme to 10 cm. Flowers orange or golden yellow.


**Rosaceae**

Trees, shrubs and herbs, sometimes armed. Leaves alternate, simple, or palmately or pinnately compound, petiolate. Inflorescence a terminal or axillary raceme, cyme, fascicle, panicle, corymb or umbel, or the flowers axillary and solitary. Flowers bisexual, regular; sepals 4-5, united below in a 4- or 5-lobed calyx-tube or hypanthium; petals (0) 4-5, free. Stamens 5-numerous, inserted on the hypanthium. Ovary superior or inferior, 1- to several-celled; pistils 1-numerous. Fruit a berry, drupe, pome, follicle or achene.

1. *Rosa* Linnaeus

Armed shrubs. Leaves alternate, odd-pinnately compound; stipules united to the petiole. Inflorescence a corymb or panicle, or the flowers solitary. Petals 5, inserted on an hypanthium. Pistils numerous. Fruit a mealy, enlarged hypanthium (hip) enclosing numerous achenes; achenes pubescent.


1. *Rosa x borboniana* Desportes, *Rosetum Gallicum* 106 (1828). ROOS (Surinam); ROSIER (French Guiana); BOURBON ROSE; HYBRID BOURBON ROSE, HYBRID PERPETUAL ROSE. Shrubs with erect stems (canes). Leaflets 7. Flowers globose, double, carmine-rose.

Range: A hybrid complex of cultivated origin. Grown as an ornamental at the Promenade Gardens, Georgetown and on grounds of Timehri Airport, Guyana, at the Esther Stichting near Paramaribo, Surinam, and on hotel grounds in Cayenne, French Guiana.

Identification of this species is provisional. A species with small, rose-red flowers is grown in a restaurant garden and at the Palmentuin in Paramaribo, Surinam.

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Rubiaceae

Trees, shrubs or herbs. Leaves opposite or whorled, simple, petiolate; stipules interpetiolar or not, entire or parted into setae. Inflorescence a terminal or axillary cyme, panicle, raceme, corymb or capitulum, or sometimes flowers solitary. Flowers bisexual, sometimes dimorphic (long-styled, short-styled) or trimorphic; sepals 4-5 (-7), united below in a short tube; petals 4-5 (-11), united below in a corolla-tube with 4-5 lobes. Stamens 4-5 (-9), epipetalous. Ovary inferior, usually 2-celled; seeds 1 to numerous per cell; stigmas 2, or 1 with bilobed apex. Fruit a berry, drupe or capsule, rarely syncarpous.

Key to Genera

1. One sepal of the calyx greatly enlarged in a foliaceous, brightly colored bract.
   2. Fruit a berry; inflorescence a rounded corymb or cyme, not on an elongated axis; corolla cream or yellow  4. Mussaenda
   2. Fruit a capsule; inflorescence of short panicles on an elongated axis to 30 cm; corolla yellowish- or reddish-orange  9. Warszewiczia

1. All sepals equal, or only very slightly unequal.
3. Flowers solitary; petals 6  1. Gardenia
3. Flowers not solitary; petals 4-5 (-7).
   4. Fruit compound, an aggregate or syncarp of succulent calyces; inflorescence a congested capitulum  3. Morinda
   4. Fruit a capsule or berry, not compound or syncarpous; inflorescence a cyme, corymb, raceme or panicle, not a capitulum.

5. Fruit a capsule.
   6. Herb or subshrub; stipules parted into filaments; corolla pink to red or white; corolla-lobes valvate in bud  5. Pentas
   6. Shrub; stipules entire; corolla orange-red or cinnabar-red; corolla-lobes imbricate in bud  8. Rondeletia

5. Fruit a berry or drupe.
7. Corolla-tube 9-16 cm; flowers pendent; anthers with sterile appendage at base; ovules several per cell  6. Posaqueria

7. Corolla-tube less than 9 cm; flowers not pendent; anthers without basal appendage; ovule 1 per cell.
8. Corolla-lobes valvate in bud, corniculate (bearing a knob of tissue) on the back, white; fruit a drupe  7. Psychotria
8. Corolla-lobes contorted in bud, not corniculate, of a red, orange, yellow, pink or white color; fruit a berry  2. Ixora

1. Gardenia Ellis

Shrubs or sometimes trees, deciduous or evergreen, armed or unarmed. Leaves opposite or in whorls of 3 or more; stipules interpetiolar, fused, often with resin glands. Inflorescence of solitary or paired, axillary or terminal flowers. Flowers regular, bisexual, or unisexual and the plants dioecious; sepals united in a 5-toothed or -lobed calyx-tube, glandular inside; petals 5-11, united below in a funnelform to campanulate or salverform corolla-tube. Stamens 5-9. Ovary 1-celled; fruit a berry; seeds numerous, embedded in

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Fig. 159. *Ixora coccinea* (Rubiaceae).
gelatinous pulp.

1. Gardenia jasminoides Ellis, Philosophical Transactions of the Royal Society of London 51(2): 935 (1761). (Synonym: G. floridea Linnaeus). WILKENS JASMIJN, KAAPSE JASMIJN (Surinam), KATJA PIRING (Surinamese Malayan); CAPE JASMINE. Unarmed evergreen shrub to 1.8 m. Leaves opposite, lanceolate to elliptical, glossy above, to 7 x 2.6 cm; stipules ovate, c.1 cm. Flowers bisexual, solitary, terminal or subterminal; calyx funnelform, the calyx-teeth 5, long; corolla of 6 petals (often double), fragrant, white or cream, to 7.5 cm wide, the tube cylindrical, to 3.8 cm. Stigma 2-lobed. Fruit fleshy, globose to cylindrical, orange, to 3.8 cm.

Range: China. Grown as a flore pleno (double-flowered) ornamental at the Cultuurtuin, Paramaribo, Surinam; and in French Guiana (Lemee, 1953).

2. Ixora Linnaeus

Unarmed, evergreen shrubs or trees. Leaves opposite, rarely whorled; stipules interpetiolar. Inflorescence a terminal corymb or panicle; pedicels bracteate. Flowers regular; calyx-lobes 4; corolla-tube long, with 4-5 lobes. Stamens 4-5. Style 2-branched. Fruit a berry; seeds 2.

Key to Species

1. Flowers white, or white tinged with pink.
   2. Inflorescence a trichotomously branched, laxly flowered panicle; flowers white tinged with pink
   4. I. laxiflora
   3. I. finlaysoniana

1. Flowers red, orange-red or yellow.
3. Flowers yellow
1. I. coccinea

3. Flowers red or orange-red.
4. Inflorescence a very large corymb; leaves to 30 cm
2. I. duffii
4. Inflorescence a small to medium-sized corymb; leaves to 8 (10) cm
1. I. coccinea

1. Ixora coccinea Linnaeus, Species Plantarum 159 (1753). BUISSON ARDENT (French Guiana); FAJA-LOBBIE (Surinam); FLAME OF THE WOODS. Shrub to 2 m. Leaves elliptical, ovate or oblong, to 8 (10) cm. Inflorescence a dense corymb. Flowers red, orange-red or yellow; corolla-tube 5-7 cm.

Key to Cultivars

1. Flowers red
   1a. f. coccinea
1. Flowers yellow
   1b. f. lutea

1a. I. coccinea var. coccinea f. coccinea. Range: South India. Grown as an ornamental at the Botanic Gardens, Georgetown and elsewhere in Guyana, and on hotel grounds in Paramaribo, Surinam; and in French Guiana (de Granville, 1985).

1b. I. coccinea var. coccinea f. lutea (Hutchinson) Fosberg & Sachet, Baileya 23(2): 79
Fig. 160. *Ixora laxiflora* (Rubiaceae).

2. *Ixora duffii* T. Moore, *Florist and Pomologist* 32: 76 (1878). (Synonym: *I. macrothyrsa* sensu auth., non Teysmann & Binnendijk). Shrub to 3 m. Leaves linear- to lanceolate-oblong, to 30 cm. Inflorescence a very large corymb. Flowers red; corolla-tube c.3.7 cm.

Range: Celebes Islands. Grown as an ornamental on hotel grounds in Paramaribo, Surinam, and on hotel grounds in Cayenne, French Guiana.

3. *Ixora finlaysoniana* Wallich ex G. Don, *General System of Gardening and Botany* 3: 572 (1834). Tree or shrub to 5.4 m. Leaves oblong to oblanceolate or obovate, to 13 (-15) cm. Inflorescence a large corymb. Flowers white; corolla-tube to 3.5 cm.


4. *Ixora laxiflora* J.E. Smith in Rees, *The Cyclopaedia* 19(1,37): n.8 (1811). Tree or shrub to 10.5 m. Leaves oblong-lanceolate, to 20 cm. Inflorescence a trichotomously branched, laxly flowered panicle. Flowers white tinged with pink; corolla-tube c.3.2 cm.


3. *Morinda* Linnaeus

Evergreen trees, shrubs or vines. Leaves opposite or whorled; stipules interpetiolar. Inflorescence an axillary or terminal, pedunculate or subsessile capitulum (head) of congested flowers. Flowers regular; sepals united in a short truncate or toothed calyx-tube, becoming succulent in fruit; petals united in a short, 4- to 7-lobed, funnelform to hypocrateriform corolla-tube. Stamens 4-6. Ovary 2- to 4-celled; style bifid. Fruit an aggregate or syncarpic head of juicy, soft (succulent), enlarged calyces, each enclosing a 1-seeded drupelet or nutlet.

1. *Morinda citrifolia* Linnaeus, *Species Plantarum* 176 (1753). DIDIBRI-APRA (Surinam), MENGKOEDOE (Surinamese Malay); PAIN KILLER (Guyana); INDIAN MULBERRY. Shrub or tree to 6 m; young branches 4-angled. Leaves opposite, mostly broadly elliptical, narrowed at base and apex, entire, prominently veined on an undulating surface, to 45 x 24 cm; stipules ovate, 2 cm. Inflorescence pedunculate. Flowers white; corolla-tube c.1 cm. Fruit (syncarp) irregularly bumpy, ovoid or ellipsoid, to 10 x 6 cm, white, cream or yellowish, fleshy, foetid with cheesy odor, reportedly both edible and poisonous.

Range: East Indies and Australia. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana; as a windbreak tree in Surinam (Ostendorf, 1962); cultivated in French Guiana (Lemee, 1953).

The popular name of "pain killer" for this plant in Guyana refers to the use in that
Fig. 161. *Morinda citrifolia* (Rubiaceae).
country of the heated or wilted leaf to alleviate pain of headaches, swellings and head colds (Little & Wadsworth, p.518, 1964).

4. *Mussaenda* Linnaeus

Shrubs or climbers, rarely perennial herbs. Leaves opposite or whorled, petiolate; stipules interpetiolar. Inflorescence a terminal corymb or cyme. Flowers regular, 5-merous; sepals 5, united below in a toothed tube, usually 1 or more sepals greatly enlarged, leaf-like and colored; petals 5, united below in a funnelform, 5-lobed tube, hairy at orifice of throat. Stamens 5. Style bifid. Fruit a fleshy berry; seeds numerous.


**Key to Species**

1. Enlarged sepal red or pink

1. Enlarged sepal white.

2. One sepal of the flower enlarged

2. One or more (up to 5) sepals of the flower enlarged

1. *Mussaenda erythrophylla* Schumacher & Thonning, *Beskrivelse af Guineiske Planter* 116 (1827). ASHANTI BLOOD. Tree-like shrub, low shrub or climber to 12 m; plant rusty-pubescent. Leaves broadly ovate or elliptic-ovate. Enlarged sepal broadly ovate, red or pink. Corolla cream to sulphur-yellow, with red throat.

Range: Tropical West Africa. Plants with red enlarged sepal are cultivated as ornamentals at the Cultuurtuin, Paramaribo, Surinam. The cv. Rosea, with pink enlarged sepal, is grown for ornament at the Botanic Gardens, Georgetown, Guyana, and on hotel grounds and in the sierplanten area of the Cultuurtuin, Paramaribo, Surinam.


Range: Philippines. Grown as an ornamental on hotel grounds, and in the sierplanten area of the Cultuurtuin, Paramaribo, Surinam.
Fig. 162. *Mussaenda erythrophylla* (Rubiaceae).
5. *Pentas* Bentham

Evergreen, erect or prostrate herbs and subshrubs. Leaves opposite or whorled, petiolate; stipules parted into filaments. Inflorescence a terminal corymb. Flowers regular, (4-) 5 (-6)-merous, often dimorphic (some flowers of the inflorescence long-styled with exerted stigmas and hidden anthers, other flowers short-styled with exerted anthers and hidden stigmas) or trimorphic; sepals 4-6, comprising calyx-lobes of unequal size; petals (4-) 5, united below in a long tube with 5 lobes and very hairy orifice of the throat. Stamens 4-6. Ovary 2-celled; style bifid. Fruit a septicidal capsule; seeds numerous, minute.

1. *Pentas lanceolata* (Forsskal) Deflers, *Voyage au Yemen* 142 (1889). EGYPTIAN STAR-CLUSTER. Pubescent herb or subshrub to c.1.5 m, erect or decumbent. Leaves opposite, ovate, elliptical or lanceolate, to 15 cm. Flowers dimorphic, varying from pink to red in various shades, sometimes white; sepals of unequal size, to 1.3 cm; corolla-tube to c.3.8 cm. Stamens 5. Seeds pitted, brown.


6. *Posoqueria* Aublet

Trees and shrubs. Leaves opposite, petiolate, coriaceous; stipules interpetiolar, not divided. Inflorescence a terminal corymb, raceme or umbel. Flowers slightly irregular, 5-merous, pendent; sepals united in a long, funnelform tube with unequal lobes, often hairy in the throat. Stamens 5; filaments unequal. Ovary 2-celled; stigma 2-lobed. Fruit a fleshy berry; seeds numerous.

1. *Posoqueria latifolia* (Rudge) Roemer & Schultes, *Systema Vegetabilium* 5: 227 (1819). KAMADAN, KORORITIBALLI (Surinamese Arawak); ATALITJAKA, KOEJAKINEREpaque, TAMAARA (Surinamese Carib); BOESI-AGOESJITON, BOESI-MAMMI, DAGOESTON, PAIPIARAN, PIPA-OEDOE, SPIKRIETIEKIE (Surinamese Creole); NEEDLE FLOWER. Shrub or tree to 6 (-13.5) m. Leaves ovate or elliptical, with slightly revolute margin, to 24 x 13 cm. Inflorescence a corymb; corolla white, with long cylindrical tube 9-10 (-16) cm, hairy in the throat, the face of flower c.4.5 cm wide. Fruit globose, yellow or orange, 4-7.5 cm.

Range: Mexico to South America, including the three Guianas. Grown as an ornamental in Surinam (Ostendorf, 1962).

*Posoqueria longiflora* Aublet, also indigenous to the three Guianas, has flowers with corolla-tube more than 20 cm long.

7. *Psychotria* Linnaeus

Trees or shrubs, rarely perennial herbs. Leaves opposite, rarely whorled, petiolate; stipules connate. Inflorescence a terminal or axillary corymb or panicle. Flowers regular, often dimorphic (with long-styled and short-styled flowers), (4-) 5 (-6) -merous; sepals united in a short tube; petals united in a short, 5-lobed tube. Stamens (4-) 5 (-6). Ovary 2-
Fig. 163. 
Warszewiczia coccinea (Rubiaceae).
celled; style bifid. Fruit a berry or drupe; seeds 2.

1. Psychotria bahiensis De Candolle, Prodrumus 4: 509 (1830), var. cornigera (Bentham) Steyermark, Memoirs of the New York Botanical Garden 23: 518 (1972). (Synonym: P. cuspidata sensu auth., non Bredemeyer ex Roemer & Schultes). BOFROE-KASABA, BOSCHV LiER (Surinam). Shrub to 3 m. Leaves oblong-elliptical, caudate, to 15 x 10.5 cm. Inflorescence a puberulent corymb, 2-3 cm, reddish or purplish when in fruit. Corolla white, 6-8.5 mm, hairy in the throat, each lobe corniculate (bearing a knob of tissue) on the back near apex. Fruit a 2-lobed drupe.

Range: Trinidad and northern South America, including the three Guianas. Grown as an ornamental in Paramaribo, Surinam (Ostendorf, 1962).

8. Rondeletia Linnaeus

Evergreen trees and shrubs. Leaves opposite or rarely whorled, petiolate or sessile; stipules interpetiolar. Inflorescence a terminal or axillary cyme, corymb or panicle. Flowers regular, 4- or 5-merous; calyx 4- to 5-lobed; petals united in a long, funnelform or salverform, 4- to 5-lobed corolla-tube. Stamens 4 or 5. Ovary 2-celled; style bilobed. Fruit a capsule; seeds numerous, winged or unwinged.

1. Rondeletia odorata Jacquin, Enumeratio Systematica Plantarum 16 (1760). Shrub to 1.8 m; branches pubescent. Leaves ovate or oblong, textured, puberulent, often with revolute margin, c.5 cm. Inflorescence a terminal, trichotomously branched corymb. Corolla 5 (-6)-lobed, without hairs at orifice of throat, orange-red or cinnabar-red, with yellow center at the slightly raised, shallowly cup-like throat; lobes rotate (spreading).

Range: Cuba, Panama. Grown as an ornamental at the Promenade Gardens and Botanic Gardens, Georgetown, Guyana; and in the Cultuurtuin, Paramaribo and elsewhere in Surinam (Ostendorf, 1962; Teunissen & Lande, 1980).

9. Warszewiczia Klotzsch

Trees and shrubs. Leaves opposite; stipules interpetiolar, adaxially glandular. Inflorescence of numerous short cymes arranged in terminal and axillary, narrow panicles on a long axis. Flowers regular, 5-merous; sepals united below in a 5-lobed tube, one of the lobes often greatly enlarged into a long-stipitate, foliaceous, highly colored bract; petals united in a small, funnelform, 5-lobed corolla-tube, hairy in the throat. Stamens 5. Ovary 2-celled; style bifid, with short, squat lobes. Fruit a capsule; seeds numerous.

1. Warszewiczia coccinea (Vahl) Klotzsch, Monatsberichte der Königlich Akademie der Wissenschaften zu Berlin 1853: 497 (1853). Tree to 15 m, or shorter shrub. Leaves broadly elliptical or elliptic-oblong, to 60 x 30 cm. Inflorescence to 30 cm. Leaf-like calyx-lobe (bract) red, to 12 x 4 cm. Corolla yellow- or red-orange, to 8 mm.

Range: Trinidad; Mexico to northern South America. Grown as an ornamental in Surinam (Ostendorf, 1962). The cv. David Auyong, which has a much fuller inflorescence due to double rows of leaf-like calyx-lobes (bracts), is grown as an ornamental in Guyana.
Fig. 164. *Murraya paniculata* (Rutaceae).
Rutaceae

Evergreen or deciduous trees and shrubs; stems armed or unarmed. Leaves alternate or opposite, simple, or palmately or pinnately compound, often glandular-punctate, subsessile to petiolate. Inflorescence of terminal or lateral racemes, panicles, corymbs or cymes, or of axillary, solitary flowers. Flowers often bisexual, often regular; sepals 3-5, free or united below; petals 3-5, free. Stamens 2-60, free or united in fascicles. Ovary superior, 4- or 5-celled. Fruit a berry, capsule, drupe, follicle or samara; seeds numerous.

Key to Genera

1. Branches unarmed; leaflets 3-9, alternate; sepals and petals 5; stamens 10
1. Branches armed with paired spines; leaflets 3, the lateral ones opposite; sepals and petals 3; stamens 6

1. Murraya J. Koenig ex Linnaeus

Unarmed trees and shrubs. Leaves alternate, odd-pinnately compound, petiolate; leaflets alternate. Inflorescence of terminal or axillary panicles, cymes or corymbs, or of axillary, solitary flowers. Sepals 5; petals 4-5; stamens 8 or 10. Fruit a berry; seeds few to numerous.

1. Murraya paniculata (Linnaeus) Jack, Malayan Miscellanea 1: 31 (1820). (Synonym: M. exotica Linnaeus). LIMONIA (Surinam); KEMOENING (Surinamese Javan); ORANGE JASMINE, ORANGE JESSAMINE. Evergreen shrub or tree to 7.5 m. Leaves odd-pinnately compound; leaflets 3-9 (1-4 pairs), alternate, rhombic or obovate, entire or crenate, shiny, to 7 cm. Inflorescence a few-flowered corymb. Flowers white. Fruit red, c.1.2 cm wide; seeds 1-2.


2. Triphasia Loureiro

Armed trees and shrubs. Leaves alternate, simple or trifoliolate, glandular-punctate, petiolate; lateral leaflets opposite. Inflorescence of axillary, solitary flowers or fascicles of up to 3 flowers. Sepals 3-5; petals 3-5; stamens 6-10. Fruit a berry; seed 1 (-3).

1. Triphasia trifolia (N.L. Burman) P. Wilson, Torreya 9: 33 (1909). ZOETE LEMMETJE, SWIT-LEMKI (Surinam); LIMEBERRY. Evergreen tree to 4.5 m; branches armed with paired spines. Leaves trifoliolate; leaflets 3, ovate or elliptical, crenate, to c.4.5 cm, the lateral leaflets opposite, the terminal leaflet much larger than the laterals.
Fig. 165. *Triphasia trifolia* (Rutaceae).
Inflorescence of axillary, solitary flowers. Flowers white. Fruit dark red, to c.1 cm wide.

Range: Malaysia. Grown as an ornamental hedge at the President’s House, Paramaribo, Surinam.

The grapefruit, *Citrus x paradisi* Macfadyen, with simple leaves and very large, yellow fruit, is occasionally seen planted on hotel grounds in Paramaribo, Surinam in sites suggesting an ornamental, rather than culinary, purpose.

**Salicaceae**

Dioecious, deciduous trees and shrubs. Leaves alternate, simple, petiolate. Inflorescence of terminal or axillary, specialized cymes or spikes (catkins, aments). Flowers unisexual, bracteate; bract (scale) entire to fimbriate, often accompanied by a glaand; sepals and petals absent. Stamens 2-30, free or united. Ovary superior, 1-celled. Fruit a 2-valved capsule; seeds numerous, pubescent or comose.

1. *Salix* Linnaeus

Characteristics of the family Salicaceae.

1. *Salix canariensis* C. Smith ex Link, in Buch, *Physicalische Beschreibung der Canarischen Inseln* 159 (1825). MADEIRAWILG (Surinam). Shrub or tree to 10 m. Leaves oblong or lanceolate, entire to crenate, pubescent beneath, to 10 (-15) cm. Inflorescence (catkins) erect, to 6 cm.


**Sapindaceae**

Evergreen or deciduous trees, shrubs or woody vines, monoecious or dioecious or polygamous. Leaves alternate, 1- or 2-pinnately compound, or 1- or 2-ternately compound, petiolate. Inflorescence a terminal or axillary panicle or raceme. Flowers bisexual or functionally unisexual, regular or irregular; sepals 4-5, free or united below in a 4- or 5-toothed calyx; petals (0) 4-5, free, usually with appendages on adaxial surface. Nectary disc annular or glandular, extra-staminal. Stamens (6) 8-10, free. Ovary superior, 3-celled. Fruit a capsule, berry, drupe, nut or samara; seeds often arillate.

**Key to Genera**

1. Fruit an unarmed, 3-seeded, pyriform, 3-valved, dehiscent capsule; seed exposed at top of fleshy, corrugated, basal aril 1. *Blighia*

1. Fruit a softly spinose-armed, 1-seeded, globose or ellipsoid, indehiscent drupe; seed embedded completely in fleshy, smooth, all-surrounding aril 2. *Nephelium*
Fig. 166. *Blighia sapida* (Sapindaceae).
1. **Blighia** K. Koenig

Evergreen, monoecious trees and shrubs. Leaves alternate, pinnately compound. Inflorescence an axillary, simple or compound raceme. Flowers unisexual, regular; sepals 5 (6); petals 5; stamens 8-10. Fruit a 3-valved capsule; seeds 3, with fleshy aril.

1. **Blighia sapida** K. Koenig, in K. Koenig & Sims, *Annals of Botany* 2: 571 (1806). AKEE, VEGETABLE BRAIN. Monoecious tree to 15 (-22) m. Leaves to 37.5 cm; leaflets 6-10 (3-5 pairs), elliptical or obovate, yellowish-green above, to 20 cm. Flowers whitish. Fruit pyriform, depressed at apex, 3-lobed, red, or yellow tinged with red, splitting into 3, 1-seeded valves with a thick rind; seed shining, black or dark brown, with a fleshy, corrugated, cream or white, basal aril; aril attached to seed by a pink, red or orange, poisonous membrane (raphe).


2. **Nephelium** Linnaeus

Evergreen, monoecious trees. Leaves alternate, pinnately compound. Inflorescence an axillary, simple or compound raceme. Flowers unisexual, regular; sepals 5; petals 5; stamens 8. Fruit a drupe; seed 1, with fleshy aril.

1. **Nephelium lappaceum** Linnaeus, *Mantissa Plantarum Altera* 566 (1771). RAMBUTAN. Tree to 18 m. Leaflets 5-11, elliptical, oblong or obovate, to 15 cm. Flowers whitish. Fruit ellipsoid or globose, covered with long, fleshy, soft, curved, red spines; seed large, surrounded by soft, smooth, whitish, translucent aril; aril juicy, edible.

Range: Malaysia. Grown as an ornamental novelty on a flower-farm near Timehri, Guyana, and in the sierplanten area of the Cultuurtuin, Paramaribo, Surinam.

**Scrophulariaceae**

Annual or perennial herbs or shrubs. Leaves usually opposite, sometimes alternate or whorled, simple to pinnatifid, sessile or petiolate. Inflorescence of axillary spikes, racemes, cymes or panicles. Flowers bisexual, irregular; sepals (4) 5, united in a (4-) 5-toothed calyx-tube; petals 4-5, united in a 4- or 5-lobed, usually 2-lipped, sometimes saccate or spurred corolla-tube. Stamens (2) 4, didynamous. Ovary superior, 2-celled. Fruit a capsule or berry; seeds numerous.

**Key to Genera**

1. Corolla-tube absent or very short; inflorescence a long, many-flowered, terminal raceme

   1. **Angelonia**

1. Corolla-tube prominent; inflorescence of solitary, axillary flowers, or a short, few-flowered, terminal or axillary cyme or raceme.

2. Perennial shrub; leaves whorled, sometimes reduced to scales; flowers red 2. **Russelia**

2. Annual herb; leaves opposite, foliose; flowers purple, with white or yellow blotch
3. Torenia

1. Angelonia Humboldt & Bonpland

Perennial herbs or subshrubs. Leaves opposite (rarely whorled), or the upper alternate, simple. Inflorescence a terminal raceme, or of axillary, solitary flowers. Flowers bisexual, irregular; corolla 2-lipped, the tube absent or very short, the throat swollen or inflated on one side. Fruit a capsule.

Key to Species

1. Plant glabrous, to 60 cm 1. A. angustifolia
1. Plant glandular-pubescent, to 90 cm 2. A. salicifolia

1. Angelonia angustifolia Bentham, in A.P. De Candolle, Prodromus Systematis Naturalis Regni Vegetabilis 10: 254 (1846). ANANASBLOEM (Surinam); VUILE OORTJES (Surinamese Indonesian). Perennial herb to 60 cm; plants glabrous. Leaves narrowly lanceolate, serrulate, to 6 cm. Flowers purplish-blue.


2. Angelonia salicariifolia Humboldt & Bonpland, Plantae Aequinoctiales 2 (14): 92, t.108 (1812). Perennial herb to 90 cm; plant glandular-pubescent. Leaves lanceolate or oblong, serrulate at least distally, to 7.5 cm. Flowers purplish-blue.

Range: Northern South America, West Indies. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana; and in Surinam (Ostendorf, 1962).

2. Russelia Jacquin

Evergreen shrubs and subshrubs. Leaves opposite or whorled, simple, those on branchlets sometimes reduced to scales. Inflorescence an axillary cyme. Flowers bisexual, somewhat irregular; corolla somewhat 2-lipped, 5-lobed, the tube cylindrical. Fruit a capsule.

1. Russelia equisetiformis Schlechtendahl & Chamisso, Linnaea 6: 377 (1831). JEZUSTRANEN, DAMESLIPPEN (Surinam); CORAL PLANT, FOUNTAIN PLANT. Shrub to 1.2 m; stem-branches green, photosynthetic, rush (Equisetum)-like and conspicuously ribbed, 4- to 12-angled, arcuate, whorled. Leaves whorled, 3-6 per whorl, either ovate to elliptical and to 1.2 cm, or reduced to minute scales. Inflorescence a 1- to 3-flowered cyme. Flowers red, narrowly cylindrical, c.2.5 cm.

Range: Mexico. Grown as an ornamental at a waterfront park along the Surinam River in Paramaribo, Surinam; and in French Guiana (de Granville, 1985).

3. Torenia Linnaeus

Annual or perennial herbs; stems erect to prostrate. Leaves opposite, simple.
Inflorescence a terminal raceme, or of axillary, solitary flowers. Flowers bisexual, irregular; calyx 3- to 5-winged or pleated; corolla 2-lipped, the tube cylindrical. Fruit a capsule.

**Key to Species**

1. Stems prostrate; leaves ovate-deltate, to 2.5 cm; calyx cylindrical, only slightly winged; lower corolla-lip white
   1. *T. asiatica*

1. Stems erect; leaves ovate, to 5 cm; calyx ellipsoid, prominently 5-winged; lower corolla-lip with yellow blotch
   2. *T. fournieri*

1. *Torenia asiatica* Linnaeus, *Species Plantarum* 619 (1753). *VIOOLTJE* (Surinam); WISHBONE PLANT. Annual herb; stems prostrate or trailing, rooting at the nodes. Leaves ovate-deltate, serrate, to 2.5 cm. Inflorescence of axillary, solitary flowers. Flowers violet-purple, with white lower lip.


**Solanaceae**

Armed or unarmed trees, shrubs, annual or perennial herbs, and vines. Leaves alternate or opposite, simple or pinnately compound, sessile or petiolate. Inflorescence of axillary or terminal racemes, corymbs, cymes or panicles, or of solitary, axillary flowers. Flowers bisexual, regular, rarely irregular; calyx 4- or 5-lobed or -toothed, sometimes circumscissile; corolla often rotate or funnelform, 5 (-6)-lobed. Stamens 4 or 5; anthers dehiscing by longitudinal slits or apical pores, free or united in a cone above the style; staminodes present or absent. Ovary superior. Fruit a 2- or 4-celled capsule or berry; seeds numerous.

**Key to Genera**

1. Anthers united in a cone above the style, each dehiscing by 2 apical pores
   7. *Solanum*

1. Anthers free, dehiscing by longitudinal slits.
   2. Fertile stamens 4.

3. Leaves sessile; corolla-limb plicate; anthers 2-locular
   5. *Petunia*

3. Leaves petiolate; corolla-limb not plicate; anthers, at least the upper pair, 1-locular.
   4. Annual herb; corolla irregular, violet-blue, to 1.5 cm, the lobes cleft at apex; fruit a capsule
      1. *Browallia*

   4. Shrub or tree; corolla regular, white, to 6.3 cm, the lobes entire; fruit a berry
      2. *Brunfelsia*

   2. Fertile stamens 5.

5. Fruit an often prickly capsule; lower part of calyx circumscissile and subtending the fruit

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5. Fruit an unarmed berry; calyx not circumscissile and collar-like.
6. Herbs or shrubs; corolla white, less than 5 cm, the lobes not frilled
6. Climbing shrubs or vines; corolla yellow, 15-22.5 cm, the lobes frilled

1. **Browallia** Linnaeus

Annual or perennial herbs. Leaves alternate or opposite, simple, petiolate. Inflorescence of solitary, axillary flowers or terminal racemes. Flowers irregular (zygomorphic); calyx 4- or 5-toothed; corolla salverform, 5-lobed, with straight tube. Stamens 4, paired; anthers of upper (shorter) pair 1-celled; staminode present or absent. Fruit a capsule, surrounded by persistent calyx; seeds numerous, minute.

1. **Browallia americana** Linnaeus, *Species Plantarum* 631 (1753). Annual herb to 70 cm; branches puberulent with non-glandular or glandular hairs. Leaves alternate, ovate to lanceolate, glabrous or puberulent with non-glandular hairs, to 8 cm. Calyx-teeth unequal, glandular-puberulent. Corolla violet-blue, the tube to c.1.5 cm, the lobes cleft at apex, the face to 1.3 cm wide. Staminode absent.


2. **Brunfelsia** Linnaeus

Shrubs or trees. Leaves alternate, simple, petiolate. Inflorescence a terminal cyme, or of solitary, axillary flowers. Flowers slightly irregular (slightly zygomorphic); calyx tubular or campanulate, 5-toothed; corolla salverform or funnelform, 5-lobed, the lobes sometimes undulate or unevenly crisped. Stamens 4, paired; anthers all 1-celled; staminode present or absent. Fruit a berry; seeds angular.

1. **Brunfelsia americana** Linnaeus, *Species Plantarum* 191 (1753). LADY OF THE NIGHT. Shrub or tree to 6 m. Leaves elliptical or obovate, to 12.5 cm. Calyx campanulate. Corolla white, later changing to cream yellow, the tube puberulent outside and to c.6.3 cm, the face to 6.3 cm wide. Fruit orange.


3. **Capsicum** Linnaeus

Annual or perennial herbs or shrubs. Leaves alternate, simple, entire, petiolate. Inflorescence of solitary, axillary or terminal flowers, or of few-flowered fascicles. Flowers regular; calyx campanulate or rotate, truncate or 5-toothed; corolla subrotate, 5-lobed. Stamens 5, equal. Fruit a dry or fleshy, pungent berry; seeds numerous, flattened, lenticular.

1. **Capsicum annuum** Linnaeus, *Species Plantarum* 188 (1753), var. *aviculare* (Dierbach) D’Arcy & Eshbaugh, *Phytologia* 25(6): 350 (1973). (Synonyms: *C. minimum* Miller, *C. annuum var. conoides* (Miller) Irish). CONE PEPPER. Annual herb or perennial shrub to 2 m. Leaves ovate to lanceolate, usually glabrous, to 12.5 cm. Flowers usually solitary, axillary. Corolla white, the face to 1.5 cm wide. Fruit globose to elongate-conical, erect, red
Fig. 167. *Capsicum annuum* var. *aviculare* (Solanaceae).
at maturity, to 3 (-5) x 1 cm.

Range: West Indies; southern United States to South America. A cultivar with dark purple leaves is grown as an ornamental at the Botanic Gardens nursery, Georgetown, Guyana.


The unequivocally correct scientific name of the cone pepper is a contested subject in the literature of pepper taxonomy. Several unidentified species of Capsicum are grown as ornamentals in French Guiana (de Granville, 1985).

4. Datura Linnaeus

Annual or perennial herbs or shrubs. Leaves alternate, simple, petiolate. Inflorescence of solitary, axillary flowers, sometimes in branch-axis. Flowers regular; calyx either tubular, spathaceous, or 2- to 5-toothed, circumscissile above base of tube, persistent as a collar, cup or frill; corolla funnelform, shallowly 5- or 10-toothed or -lobed, the limb plaited. Stamens 5, equal. Fruit a 4-celled capsule, often prickly; seeds numerous, flat or angular, often rugulose-pitted.


1. Datura stramonium Linnaeus, Species Plantarum 179 (1753). DOORNAPPEL (Surinam); JIMSON WEED. Annual herb to 1.5 m; poisonous. Leaves ovate, sinuately dentate or lobed, glabrous or pubescent, to 20 cm. Calyx unequally 5-toothed, keeled on the angles, the part remaining after circumscission a reflexed frill. Corolla white or tinged purplish, 5-toothed, to 10 cm. Capsule erect, ovoid, spiny or smooth, to 7 cm.


An unidentified species of Datura is indicated by J.-J. de Granville (1985) as an infrequent ornamental in French Guiana.

5. Petunia Jussieu

Annual or perennial herbs. Leaves alternate, entire, sessile. Inflorescence of solitary, axillary or terminal, pedicellate flowers. Flowers bisexual; calyx campanulate or tubular, 5-lobed or -parted; corolla funnelform or salverform, of 5 united petals, the limb plicate. Stamens 5, comprising 4 fertile, didynamous ones and 1 small or rudimentary and sterile stamen. Fruit a 2-celled capsule; seeds numerous.

Verlag.

1. *Petunia x hybrida* Vilmorin, *Les Fleurs de Pleine Terre* ed. 1, 615 (1863). PETUNIA, COMMON GARDEN PETUNIA. Annual or perennial herb, dwarf or up to 80 cm (-1 m). Leaves ovate or ovate-lanceolate, glandular-pubescent, sessile, to c. 6.5 cm. Flowers sometimes double; corolla funnelform, of various colors including white, pink, purple or red, to c. 9 x (face) 12.5 cm.


6. *Solandra* Swartz

Climbing shrubs or vines. Leaves alternate, simple, entire, petiolate. Inflorescence of solitary, axillary, pedicellate flowers, a few- to few-flowered fascicle. Flowers regular, or slightly irregular; calyx tubular, long, 2- to 5-lobed; corolla funnelform, the throat campanulate, 5-lobed, the lobes reflexed and often frilled or undulate. Stamens 5. Fruit a 4-celled, fleshy, globose berry, somewhat included in the persistent calyx; seeds numerous, reniform.

The flower of *Solandra* may superficially resemble that of *Beaumontia* (Apocynaceae).

**Key to Species**

1. Corolla opening white, changing to yellow or eggshell-brownish
1. Corolla yellow, with purple marks in throat

1. *Solandra longiflora* Tussac, *Flore des Antilles* 2: 49, t. 12 (1818). CUP OF MILK. Climbing shrub to 9 m or more; stems and leaves glabrous. Leaves elliptic-oblong or oblong-lanceolate, to 17.5 cm. Calyx 2-lobed, to 10 cm. Corolla opening white at night, changing the next day to yellow or eggshell-brownish, to 15 cm; the lobes frilled.


2. *Solandra maxima* (Sesse & Mocino) P.S. Green, *Curtis’s Botanical Magazine* n.s. 176(3): t. 506 (1967). (Synonyms: *S. grandiflora* auct., non Swartz; *S. guttata* auct., non D. Don; *S. nitida* auct., non (Zuccarini) Standley). CHALICE VINE (Guyana); TROMPET-BLOEM (Surinam); CUP OF GOLD. Climbing shrub to 50 m; stems and leaves glabrous. Leaves elliptical, to 15 cm. Calyx (3-) 5-lobed, to 6 cm. Corolla yellow, with purple marks, spots or lines in throat, to 22.5 cm; the lobes frilled.

Range: Mexico. Grown as an ornamental in Surinam (Ostendorf, 1962); and at the Botanic Gardens, Georgetown, Guyana in the 1930’s (Department of Agriculture, 1934).
Fig. 169. *Petunia x hybrida* (Solanaceae).
Fig. 170. *Solandra longiflora* (Solanaceae).
7. *Solanum* Linnaeus

Annual or perennial, armed or unarmed herbs, shrubs, vines or trees. Leaves alternate, simple or compound, sessile or petiolate. Inflorescence an axillary, extra-axillary or terminal raceme, cyme, corymb or panicle. Flowers regular, or sometimes irregular; calyx (4-) 5 (-10)-toothed; corolla rotate, 5 (-6)-lobed. Stamens 5, exerted; anthers united over the style, dehiscing by 2 apical pores. Fruit a 2-celled berry; seeds numerous, reniform.

**Key to Species**

1. Trees or shrubs; stems armed with spines; leaves simple or lobed, not pinnately compound; inflorescence a raceme
   1. *S. macranthum*

1. Vines; stems unarmed; leaves pinnately compound; inflorescence a panicle
   2. *S. seaforthianum*

   1. *Solanum macranthum* Dunal, *Solanorum Generumque Affinium Synopsis* 43 (1816). AARDAPPELBOOM (Surinam); POTATO TREE. Shrub or tree to 9 m; stems and leaves spiny, pubescent. Leaves simple, toothed or up to 10-lobed, to 40 cm. Inflorescence a 7- to 12-flowered raceme. Corolla 5- or 6-lobed, bluish-purple, to 6.3 cm wide.


2. *Solanum seaforthianum* Andrews, *Botanists Repository* 8(104): t.504 (1808). POTATO CREEPER. Vine to 6 m, with petiole-tendrils; stems and leaves unarmed, glabrous. Leaves pinnately compound with 3-9 leaflets, to 20 cm. Inflorescence a many-flowered panicle. Corolla 5-lobed, blue, purple or pinkish, to 5 cm wide.


**Sterculiaceae**

Monoecious, dioecious or polygamous trees and shrubs. Leaves alternate, simple to palmately compound, petiolate. Inflorescence an axillary panicle, raceme, cyme or thyrs. Flowers unisexual or bisexual, regular; sepals 3-5, united in a 3- to 5-lobed calyx-tube; petals 0 or 5. Stamens 5-20, the filaments united in a column. Ovary superior, 3- to 6-celled. Fruit a follicle, capsule or samara.

**Key to Genera**

1. Leaves unlobed; sepals 3; petals 5; fruit a tuberculate capsule
   1. *Guazuma*

1. Leaves 5-lobed; sepals 5; petals absent; fruit a non-tuberculate follicle
   2. *Sterculia*

   1. *Guazuma* Miller

Evergreen trees. Leaves alternate, often oblique at the base. Inflorescence an axillary raceme, cyme, panicle or thyrs, Flowers bisexual; sepals 3; petals 5, apically appendaged; stamens 15. Fruit a 5-valved, indehiscent or only partially dehiscent capsule.
1. *Guazuma ulmifolia* Lamarck, *Encyclopedie Methodique. Botanique* 3: 52 (1789). BASTARD CEDAR. Evergreen, buttressed tree to 25 m. Leaves ovate or lanceolate, unequal at the base, serrulate, subglabrous to stellate-tomentose beneath, to 16 x 6 cm. Sepals yellow. Petals hooded, yellowish-green, with a bifid, purple, awn-like appendage at apex. Fruit ellipsoid or globose, warty or tuberculate, black, to 4 cm; seeds numerous, in mucilaginous pulp.

Range: West Indies; Mexico to South America, including the three Guianas. Grown as an ornamental in Surinam (Ostendorf, 1962).

2. *Sterculia* Linnaeus

Evergreen or deciduous trees. Leaves alternate, simple to palmately compound. Inflorescence an axillary panicle or raceme. Flowers bisexual or unisexual; sepals 5, united in a 5-lobed calyx-tube; petals absent; stamens 7-15. Fruit of 1-5 free, radiating, coriaceous or woody, dehiscent follicles.

1. *Sterculia apetala* (Jacquin) Karsten, *Floraes Columbae* 2: 35, t.118 (1861). (Synonym: *S. carthageensis* Cavanilles). Functionally monoecious, evergreen tree to 40 m. Leaves palmately 5-lobed, cordate at the base, coriaceous, stellate-tomentose beneath when young, to 35 (-50) x 45 cm. Flowers bisexual or functionally unisexual. Calyx greenish or yellowish, pubescent, c.2.5 cm wide. Stamens 15. Fruit of pod-like, reddish- or orange-tomentose follicles to 8 x 5 cm; inside of follicle with indumentum of acicular, orange-colored, irritating hairs; seeds 2-5 per follicle, c.2.5 cm.


Tropaeolaceae

Annual or perennial herbs. Roots sometimes tuberous. Stems somewhat succulent, with watery sap, prostrate or climbing by the petioles. Leaves alternate, simple, entire or palmately lobed, peltate, long-petiolate. Inflorescence of solitary, rarely umbellate, flowers. Flowers bisexual, irregular (zygomorphic); sepals 5 in a 2-lipped calyx, the upper sepal spurred; petals 5, free, in 2 sets, clawed, entire to fimbriate. Stamens 8. Ovary superior, 3-celled. Fruit indehiscent, separating into 3, 1-seeded segments (carpels).


1. *Tropaeolum* Linnaeus

Characteristics of the family Tropaeolaceae.

1. *Tropaeolum majus* Linnaeus, *Species Plantarum* 345 (1753). NASTURTMIUM. Annual herb. Stems somewhat succulent, climbing, glabrous. Leaves peltate, the blade orbicular or subreniform, nearly entire, glaucous, to 8.5 (-20) cm wide. Flowers orange, red or yellow, occasionally spotted or striped, to c.6 cm wide, 3 of the petals fringed on the claw; calyx-spur to 2.5 cm.

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Fig. 171. *Sterculia apetala* (Sterculiaceae).
Range: South America (Andes Mts.). Grown as an ornamental in a Tankarastraat roadside garden, Paramaribo, Surinam.

Turneraceae

Trees, shrubs, and annual or perennial herbs, sometimes vines. Leaves alternate, simple, petiolate. Inflorescence of axillary, solitary flowers, rarely an axillary cyme. Flowers bisexual, regular, bracteate; perianth and stamens inserted on a hypanthium-like floral tube; sepals 5; petals 5, free; stamens 5, free. Ovary superior, 1-celled; styles 3. Fruit a capsule; seeds numerous.

1. *Turnera* Linnaeus

Characteristics of the family Turneraceae; shrubs with leaves bearing paired glands at base of the blade; stigmas fimbriate.

1. *Turnera subulata* J.E. Smith in Rees, *The Cyclopaedia* 36(2:72): no.2 (1817). KEMBANG POEKOEL DALAPAN (Surinamese Malayan). Shrub to 2 m, woody at the base. Leaves broadly elliptical, serrate, with 1 or 2 pairs of basal glands, to 5 cm. Inflorescence of solitary flowers. Petals pale yellowish-white distally, golden yellow towards the base, becoming dark purplish-brown at the base. Seeds pitted, 2 mm.

Range: Ecuador, Colombia, Venezuela, Brazil. Grown as an outdoor planted ornamental on hotel grounds and elsewhere in Paramaribo, Surinam.

Urticaceae

Monoecious or dioecious trees, shrubs, vines and herbs; plants with watery sap, sometimes with stinging hairs. Leaves alternate or opposite, simple, sessile or petiolate. Inflorescence of terminal or axillary cymes or fascicles. Flowers unisexual, regular; sepals 4-5, free or united below in a 4- or 5-toothed calyx; petals absent. Stamens 4-5, free. Ovary superior, 1-celled. Fruit an achene surrounded by the persistent calyx.

*Key to Genera*

1. Leaves alternate, asymmetrical at the base
1. Leaves opposite, symmetrical at the base, those of a pair unequal in size

1. *Pellionia* Gaudichaud-Beaupré

Monoecious or dioecious herbs and shrubs. Leaves alternate, simple, 2-ranked, asymmetrical at the base, often subsessile. Inflorescence a dense cyme. Sepals (4) 5. Fruit an achene.
Key to Species

1. Leaves with bronze-green marginal area, and bright whitish-green central area  
   1. *P. daveauana*  
   2. *P. pulchra*

1. Leaves purplish-green above, with purplish-black veins

   1. *Pellionia daveauana* (Godefroy-Lebeuf) N.E. Brown, *Gardeners’ Chronicle* n.s. 14 (348): 262 (1880). TRAILING WATERMELON BEGONIA. Succulent, creeping herb; stems rooting at the nodes, pinkish. Leaves elliptical, oblong or oblong-orbicular, toothed above, the upper marginal area bronze-green, with bright whitish-green central area, the lower surface pinkish, to c.6.3 cm.


   2. *Pellionia pulchra* N.E. Brown, *Gardeners’ Chronicle* n.s. 18(466): 712 (1882). SATIN PELLIONIA, RAINBOW VINE. Succulent, creeping herb; stems purplish. Leaves broadly elliptical or oblong, purplish-green above, with purplish-black veins, the lower surface pale purplish, to c.6.3 cm.


2. *Pilea* Lindley

Monoecious or dioecious, annual or perennial herbs. Leaves opposite, simple, those of a pair unequal in size, symmetrical at the base. Inflorescence a loose cyme or panicle. Sepals 4 (male flower) or 3 (female flower). Fruit an achene.

Key to Species

1. Stems branched in a compound, fern-like disposition; larger leaf of a pair to 1 cm, smaller leaf of a pair to 3 mm; leaves entire  
   2. *P. microphylla*

1. Plant not of fern-like habit, sometimes globular; leaves of a pair both more than 1 cm, crenate.
   2. Plant globular, dioecious; stems creeping, rooting at the nodes; leaves orbicular or suborbicular, not variegated, villous, to 2.5 cm  
      3. *P. nummulariifolia*

   2. Plant not globular, monoecious; stems erect or ascending, not rooting at the nodes; leaves ovate or elliptical, variegated with silver bands, glabrous, to 9 cm  
      1. *P. cadieri*  


   2. *Pilea microphylla* (Linnaeus) Liebmann, *Det Kongelige Danske Videnskabernes
Selskabs Skrifter, Raekke 5, 2: 296 (1851). KANONNEERPLANT (Surinam); ARTILLERY PLANT. Monoecious, succulent, annual or perennial herb to c.30 cm; stems branched in a compound, fern-like disposition. Leaves obovate, entire, green, glabrous, the larger leaf of a pair to 1 cm, the smaller leaf of a pair to 3 mm, subsessile, crowded. Female inflorescence a sessile or subsessile, small cyme.


3. *Pilea nunnularifolia* (Swartz) Weddell, Annales des Sciences Naturelles, Botanique ser.3, 18: 225 (1852). JODENBAARD (Surinam); CREEPING CHARLEY. Dioecious herb, of globular habit; stems creeping, rooting at the nodes. Leaves orbicular or suborbicular, crenate, green, villous, to c.2.5 cm. Female inflorescence a short, densely flowered cyme.

Range: West Indies; Central and South America. Grown as an ornamental in Surinam (Ostendorf, 1962).

**Verbenaceae**

Annual or perennial, evergreen or deciduous, armed or unarmed herbs, shrubs, trees or woody vines; stems often 4-angled. Leaves usually opposite or whorled, simple or compound, entire to lobed, petiolate, exstipulate. Inflorescence of terminal or axillary spikes, racemes, cymes or panicles; inflorescence-axis often prominently bracteate at the nodes (inflorescence-bracts), the bracts sometimes foliaceous and colored; flowers often individually bracteolate, or flower clusters bracteate at the base of peduncles or pedicels. Flowers bisexual, strongly or weakly irregular (zygomorphic); sepals 4-5, united below in a 4- or 5-toothed calyx-tube, sometimes connate in an orbicular limb; petals 4-5, united below in a 5-lobed or 2-lipped corolla-tube. Stamens (2) 4 (5), didynamous. Ovary superior, (2) 4 (-10) -celled; style bilobed. Fruit a dry or fleshy drupe, indehiscent or separating into 2-4 nutlets.


**Key to Genera**

1. Leaves digitately (palmately) compound with 5-9 leaflets
1. Leaves simple, lobed, or pinnately compound.
   2. Calyx a single large, orbicular or saucer-shaped, spreading disc or limb
      5. *Holmskioldia*
   2. Calyx not a single orbicular disc.
3. Branches spinose or prickly; stamens included.
   4. Fruit yellow, beaked; corolla light blue to purple, or white; inflorescence a raceme
      4. *Duranta*
   4. Fruit purplish-black, not beaked; corolla red, orange, yellow, white, pink or purple;

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3. Branches unarmed; stamens exserted.
5. Individual cymes (inflorescence-units) subtended by an involucre of 3 leaf-like, colored bracts
5. Individual cymes, or other inflorescence-units, not involucrate.
  6. Calyx-lobes much longer than the corolla; calyx with coroniform crest inside at juncture of tube and lobes
  6. Calyx-lobes shorter than the corolla; calyx without coroniform crest.
7. Stems creeping, rooting at the nodes; leaves pinnatifid; flowers sessile
7. Stems erect, or ascending as climbing vines; leaves simple (sometimes lobed); flowers pedicellate.
  8. Inflorescence-bracts red, toothed; corolla yellow; shrub
  8. Inflorescence-bracts green, entire; corolla red, white, pink or yellow; shrub, tree or vine

1. **Amasonia** Linnaeus fil.

Herbs or subshrubs. Leaves alternate or opposite, simple, toothed, petiolate. Inflorescence a terminal raceme or panicle; inflorescence-bracts prominent, foliaceous, colored. Calyx campanulate, 5-lobed. Corolla-tube long; limb 5-lobed, slightly 2-lipped, the lobes spreading or recurved. Stamens 4, exserted. Fruit a drupe.

1. **Amasonia campestris** (Aublet) Moldenke, *Torreya* 34: 8 (1934). (Synonym: *A. erecta* Linnaeus fil.). SAVANNEBLOEM (Surinam). Herb or subshrub to 2 m. Leaves sub-whorled (spirally alternate); blades lanceolate or oblong-elliptical, to 30 cm. Inflorescence a large panicle; bracts red, becoming yellow below in age, toothed, to 5.5 cm. Flowers pendent, pubescent, yellow, to 3 cm; corolla-lobes reflexed.

Range: Northern South America, including the three Guianas. Infrequently grown as an ornamental in Surinam (Moldenke, 1940; Ostendorf, 1962).

2. **Clerodendrum** Linnaeus

Evergreen or deciduous shrubs, herbaceous or woody vines, or trees. Leaves opposite, rarely whorled, simple, entire, toothed or lobed. Inflorescence a corymb, cyme or panicle; inflorescence-bracts often conspicuous but not colored. Calyx campanulate, 5-lobed, sometimes colored. Corolla-tube long; limb 5-lobed, the anterior lobe often larger than the other 4. Stamens 4, long-exserted. Fruit a drupe, with persistent calyx.

**Key to Species**

1. Corolla-tube 10-12 cm; leaves mostly in whorls of 3-6
1. **C. indicum**

1. Corolla-tube 1-4 cm; leaves opposite.
  2. Leaf-blades densely resinous-squamulose (resinous-scaly) beneath, cordate at the base
  3. Leaf-blades not resinous-squamulose beneath, often not cordate at the base (except nos. 3 & 4).
  4. **C. philippinum**
Fig. 172. Clerodendrum indicum (Verbenaceae).
3. Corolla single, red.
   4. Calyx white, conspicuously 5-angled
   4. Calyx orange, red or purplish, angled or not angled.
5. Shrub; leaves 3- to 7-lobed; inflorescence a large panicle
5. Vine; leaves unlobed; inflorescence of cymes

1. Clerodendrum indicum (Linnaeus) O. Kuntze, *Revisio Generum Plantarum* 2: 506 (1891). (Synonym: *C. siphonanthus* R. Brown). MOUR FLOWER (Guyana); TUBE FLOWER. Shrub or tree to 3 m. Leaves mostly in whors of 3-6, oblong or elliptical, entire, glabrous; blades to 23 cm. Inflorescence a terminal panicle to 45 cm or of axillary cymes to 6 cm. Calyx purplish. Corolla white or yellow; tube 10-12 cm.


2. Clerodendrum japonicum (Thunberg) Sweet, *Hortus Britannicus* 322 (1826). WAN HON NA WAN NJARI (Surinam). Shrub or tree to 3 m. Leaves opposite, ovate, cordate at the base, glandular-toothed, glabrous above, resinous-squamulose (resinous-scaly) beneath; blades to 25 cm. Inflorescence a terminal panicle to 40 cm. Calyx red. Corolla red; tube to 2 cm.


3. Clerodendrum paniculatum Linnaeus, *Mantissa Plantarum* 1: 90 (1767). PAGODA FLOWER. Shrub to 3 m. Leaves opposite, ovate, 3- to 7-lobed, the margin entire or dentate between lobe-apices, glabrous or pubescent; blades to 40 cm. Inflorescence a large terminal, pyramidal panicle to 39 cm. Calyx red or orange. Corolla red or orange-red; tube to 1.6 cm.

   Range: Southeast Asia. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana, and in gardens and on University grounds in Paramaribo, Surinam.

4. Clerodendrum philippinum Schauer, in De Candolle, *Prodromus Systematis Naturalis Regni Vegetabilis* 11: 667 (1847). (Synonyms: *C. fragrans* (Ventenat) Willdenow, *C. fragrans* var. *pleniflorum* Schauer). MADAN POLAN (Surinam); FRAGRANT GLORY BOWER. Deciduous shrub to 3 m. Leaves opposite, ovate, cordate to truncate at the base, toothed, pubescent; blades to 20 cm. Inflorescence a round-topped, terminal corymb to 6 cm. Calyx purple or red. Corolla double, pink or white, c.2.5 cm wide.


5. Clerodendrum x speciosum Dombrain, *Floral Magazine (London)* 8: t.432 (1869). (*C. splendens* G. Don x *C. thomsoniae* Balfour fil.). JAVA GLORY BEAN. Scandent shrub or
vine to 7 m. Leaves opposite, elliptical or ovate, entire, glabrous, to 4.5 cm. Inflorescence of axillary cymes to 9 cm. Calyx pale red or pinkish, somewhat angular. Corolla dull red or rose-purple; tube to 2.5 cm.

Range: Of hybrid origin, without natural range. Grown for ornament at the Promenade Gardens, Georgetown, Guyana, and on hotel grounds in Cayenne, French Guiana.

*Clerodendrum thomsoniae* seems to have dominated or contributed most to this hybrid, which has calyx characteristics similar to *thomsoniae* including an off-white color.

6. *Clerodendrum thomsoniae* Balfour fil., *Edinburgh New Philosophical Journal* ser.2, 15: 233 (1862). BLOEDEND HART, BROEDOE NAHATTI (Surinam); BLEEDING HEART (Guyana). Woody, evergreen vine to 10 m, or low shrub. Leaves opposite, elliptical, elliptic-ovate or ovate, entire, glabrous, to 4.5 cm. Inflorescence of axillary cymes to 9 cm. Calyx white (at anthesis), to 2.5 cm, conspicuously 5-angled. Corolla red or crimson; tube to 2.5 cm.

Range: Tropical West Africa. Grown as an ornamental in Surinam (Ostendorf, 1962), and in the 1930's in the Botanic Gardens, Georgetown, Guyana (Department of Agriculture, 1934).

3. *Congea* Roxburgh

Evergreen or deciduous, climbing shrubs or vines. Leaves opposite, simple, entire. Inflorescence of terminal and axillary panicles of 3- to 9-flowered, capitate cymes; individual cymes subtended at base of peduncle by an involucre of 3-4 leaf-like, white or colored inflorescence-bracts. Calyx tubular or infundibuliform, 5-toothed. Corolla-tube short; limb 2-lipped, the upper lip 2-lobed, the lower lip 3-lobed. Stamens 4, exserted. Fruit drupaceous.


1. *Congea tomentosa* Roxburgh, *Plants of the Coast of Coromandel* 3: 90, t.293 (1820). SHOWER ORCHID. Climbing shrub. Leaves ovate or elliptic-ovate, entire, pubescent above, densely tomentose beneath, to 18.5 cm. Inflorescence to 30 cm; cymes c.7-flowered; flowers sessile; inflorescence-bracts 3, free, elliptical, tomentose, pink or violet. Calyx pubescent, the lobes purple, developing long accessory awns (teeth) after anthesis. Corolla whitish or pale purple, with a band of hairs in throat, c.2.2 cm.


4. *Duranta* Linnaeus

Armed or unarmed, evergreen trees and shrubs. Leaves opposite or whorled, simple, petiolate. Inflorescence a terminal panicle of racemes; inflorescence-bracts not prominent or colored. Calyx tubular, 5-toothed. Corolla-tube cylindrical or salverform; limb 5-lobed.
Fig. 173. *Congea tomentosa* (Verbenaceae).
Fig. 174. *Duranta erecta* (Verbenaceae).
Stamens 4, included. Fruit a drupe, with persistent, accrescent calyx; seeds 8.

1. *Duranta erecta* Linnaeus, *Species Plantarum* 637 (1753). (Synonyms: *D. plumieri* Jacquin, *D. repens* Linnaeus f. *alba* (Masters) Moldenke). GOLDEN DEWDROP, SKYFLOWER. Shrub or tree to 5 (-7) m; branches sometimes vine-like, the older branches also sometimes armed with spines and trailing on the ground or drooping. Leaf-blades ovate, oblong-lanceolate or obovate, usually entire or sometimes toothed above, glabrous or puberulent, to 7.5 cm. Inflorescence with racemes concentrated near ends of the branches, to 30 cm. Calyx pubescent. Corolla light blue to purplish, or white; tube pubescent. Persistent calyx yellow; fruit yellow, orbicular, juicy, beaked, c.1.1 cm.

Range: West Indies; southern United States to Argentina. Grown as an ornamental at the Promenade Gardens and Botanic Gardens, Georgetown, Guyana; and in the Cultuurtuin, Paramaribo (Teunissen & Lande, 1980) and elsewhere in Surinam (Ostendorf, 1962).

5. *Holmskioldia* Retzias

Armed or unarmed, evergreen shrubs, trees or woody vines. Leaves opposite, simple, petiolate; stipules absent. Inflorescence of terminal or axillary panicles, cymes or racemes; inflorescence-bracts not conspicuous or colored. Calyx of 5 sepals conuate in a very short tube with large, orbicular, rotate, colored limb. Corolla-tube long, tubular; limb unequally 5-lobed or shortly 2-lipped, the upper lip 2-cleft, the lower lip 3-cleft. Stamens 4-5, exserted. Fruit a 2- to 4-lobed drupe, the calyx persistent and accrescent.


1. *Holmskioldia sanguinea* Retzias, *Observationes Botanicae* 6: 31 (1791). CHINEES HOEDJE (Surinam); CHINESE HAT PLANT, CUP-AND-Saucer PLANT. Unarmed shrub or tree to 10 m, sometimes clambering. Leaf-blades ovate, entire or shallowly crenate, glabrous above, pubescent below, to 12 cm. Calyx cup-shaped, rotate, reticulately veined, red, russet or orange, to 2.5 cm wide. Corolla curved, red or russet, to 2.5 cm. Stamens 4. Fruit 1- to 4-seeded.

Range: Nepal, Bhutan, Sikkim, Bangladesh. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana, and in the sierplanten area of the Cultuurtuin, Paramaribo, Surinam.

6. *Lantana* Linnaeus

Armed or unarmed, perennial herbs or shrubs. Leaves opposite or whorled, simple, petiolate. Inflorescence a terminal or axillary, pedunculate head, subumbellate head or spike; inflorescence-bracts not conspicuously enlarged or colored. Calyx minute, tubular, 5-toothed or 5-apiculate. Corolla-tube cylindrical or spindle-shaped; limb unevenly or nearly evenly 4- or 5-lobed, spreading. Stamens 4, included. Fruit a berry-like drupe with fleshy exocarp; nutlets and seeds 2.
Fig. 175. *Lantana camara* (Verbenaceae).
Key to Species

1. Corolla red, orange, yellow, white, pink or purple; stems erect or climbing; leaves to 12.5 cm  
   1. L. camara

1. Corolla bright pink; stems pendulous or trailing; leaves to 2.5 cm  
   2. L. montevidensis

1. Lantana camara Linnaeus, Species Plantarum 627 (1753). SWEET SAGE, SAMANBALLI (Guyana); KOORSE WIWERIE (Surinamese Carib), SOLDATENTHEE (Surinam); AGOU-MAN-MAKA, THE INDIEN, MARIE-CRABE, KALAKA, TIBOMBE (French Guiana); LANTANA, YELLOW SAGE. Shrub of compact habit up to 2 m, or rising to 6 m; stems erect or climbing, sparsely prickly, or in var. aculeata (Linnaeus) Moldenke conspicuously and densely prickly. Leaves ovate, toothed, rugose-pubescent, to 12.5 cm. Inflorescence a terminal head 2-3 (-5) cm wide. Corolla either red, orange, yellow, white, pink or purple, the basic color changing to a different color at flower's maturity, the numerous flowers of a single head sometimes of several different basic colors. Fruit purplish-black.

Range: New World tropics, including Surinam and French Guiana. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana; at the Half Flora nursery and in a private garden in Paramaribo, Surinam; and in French Guiana (de Granville, 1985).


This attractive plant has vigorously spread in other parts of the tropical world as an uncontrollable weed in areas where vegetation is not meticulously managed. Biological control species (insect enemies) employed to weaken its grasp upon invaded landscapes and indigenous vegetation outside the Guianas include the lantana tortricid moth, lantana plume moth, lantana leaf bug, and lantana seed fly.

2. Lantana montevidensis (K. Sprengel) Briquet, Annuaire du Conservatoire et du Jardin Botaniques de Geneve 7-8: 301 (1904). TRAILING LANTANA, WEEPING LANTANA. Shrub; stems pendulous or trailing, to 90 cm. Leaves ovate, toothed, rugose, pubescent, to 2.5 cm. Inflorescence a terminal head to 2.5 cm or more wide. Corolla bright pink.

Range: South America (Paraguay and environs). Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana (Ted Hubbard, pers. comm., 1985).

7. Petrea Linnaeus

Unarmed, evergreen or deciduous trees, shrubs or woody vines. Leaves opposite or whorled, simple, entire, sessile or petiolate, extipulate. Inflorescence of terminal or axillary racemes; inflorescence-bracts inconspicuous. Calyx-tube short; calyx-lobes 5, long, spreading, usually colored and paler than, as well as longer than, the corolla, with a short, 5-lobed coroniform crest (calycinal crest) inside where lobes join the tube. Corolla-tube