short; limb obliquely and unequally 5-lobed. Stamens 4, included. Fruit a drupe, completely enclosed by, and winged with, the persistent calyx.


Key to Species

1. Leaves sessile or subsessile
   1. Leaves distinctly petiolate.
   2. Leaves in whorls of 3
   2. Leaves opposite.
3. Leaves bullate (puckered) on upper surface when mature
3. Leaves not bullate.
   4. Calyx-tube densely spreading-hirsute; inflorescence axillary
   4. Calyx-tube shortly pubescent, not spreading-hirsute; inflorescence terminal
   2. P. kohautiana

1. Petrea bracteata Steudel, Flora 26: 764 (1843). (Synonyms: P. arborea sensu Pulle (1906), non Kunth; P. macrostachya sensu Pulle (1906), non Bentham). PARAPO (Surinamese Carib), HAJARIBALLI SALEROE (Surinamese Arawak); LIANE GRIS (French Guiana); SANDPAPER VINE (Guyana). Woody vine more than 3 m. Leaves opposite or in whorls of 3, elliptical, rugose, bullate, glabrous or pubescent, to 30 cm. Inflorescence axillary or terminal, to 52 cm. Flowers purple; calyx-tube very sparsely and shortly pubescent.


The "bracts" denoted by the specific epithet "bracteata" are actually the calyx-lobes.

2. Petrea kohautiana Presl, Botanische Bemerkungen 99 (1844). LIANE GRIS (French Guiana). Shrub, or woody vine to 9 m. Leaves opposite, sessile or subsessile, elliptical, smooth, glabrous, to 15 cm. Inflorescence terminal, to 60 cm. Flowers blue or purple; calyx-tube shortly pubescent or puberulent.

Range: West Indies and northern South America. Grown as an ornamental in Surinam (Ostendorf, 1962). Moldenke (p.31, 1938) cites cultivated plants from the three Guianas. This may be the unidentified Petrea species grown for ornament in French Guiana (de Granville, 1985A).

3. Petrea volubilis Linnaeus, Species Plantarum 626 (1753). QUEEN'S WREATH, SANDPAPER VINE. Subshrub, or woody vine to 13 m. Leaves opposite, elliptical, scabrid but not bullate above, puberulent beneath, to 21 cm. Inflorescence axillary, to 30 cm. Flowers blue or purple; calyx-tube densely spreading-hirsute.

Range: West Indies, Mexico and Central America. Grown as an ornamental at the Botanic Gardens, Georgetown, Guyana, and on hotel grounds in Paramaribo, Surinam.
8. Verbena Linnaeus

Annual or perennial herbs, or subshrubs; stems usually quadrangular. Leaves opposite, toothed, simple to pinnatifid, petiolate. Inflorescence of terminal, solitary to paniculately disposed, spikes; inflorescence-bracts narrow, not colored. Calyx tubular, unequally 5-toothed and -ribbed. Corolla-tube salverform or funnelform, 5-lobed, somewhat weakly 2-lipped. Stamens 4. Fruit of 4 dry nutlets, the calyx somewhat persistent.

1. Verbena tenera K. Sprengel, Systema Vegetabilium, ed.17, 2: 750 (1825). Shrub-like perennial; stems caespitose, creeping or decumbent, rooting at the nodes. Leaves pinnatifid into laciniate segments, roughly pubescent, to 2.5 cm. Inflorescence of compact, capitately spikes which become elongated after anthesis. Flowers reddish-violet; corolla-lobes emarginate, sometimes with white margin.


9. Vitex Linnaeus

Evergreen or deciduous trees and shrubs. Leaves opposite, palmately compound, petiolate. Inflorescence of axillary cymes, or cymes disposed in terminal panicles; inflorescence-bracts inconspicuous, linear. Calyx campanulate or tubular, 5-toothed or truncate. Corolla-tube funnelform, unequally 5-lobed, somewhat 2-lipped. Stamens 4, often exserted. Fruit a drupe.

1. Vitex agnus-castus Linnaeus, Species Plantarum 638 (1753). CHASTE TREE. Shrub or tree to 7.5 m; plant aromatic. Leaves palmately (digitately) compound; leaflets 5-7 (-9), narrowly lanceolate, entire or with few teeth, dark green and capitate-glandular above, densely greyish-tomentellous and pellucid-glandular beneath, to 15 cm. Inflorescence a terminal panicle to 30 cm, the component cymes sessile or nearly so. Flowers puberulent, pale violet, lilac or lavender; corolla 8 mm, the lower lip of corolla-tube with one lobe 5 mm and much longer than the 2 others.

Range: Mediterranean Sea region to Central Asia. Grown as an ornamental in Georgetown, Guyana (Jansen-Jacobs, 1988), and on University grounds and in gardens of Paramaribo, Surinam.


Vitex pinnata Linnaeus, with concolorous green leaves and inflorescence to 15 cm, is a tropical Asian species formerly cultivated at the Botanic Gardens, Georgetown, Guyana (Jansen-Jacobs, 1988).

Vitaceae

Evergreen or deciduous vines or shrubs; stems often with swollen or jointed nodes and tendrils; tendrils with or without adhesive discs. Leaves alternate, simple and often
Fig. 176. *Cissus quadrangula* (Vitaceae).
palmately lobed, or palmately compound. Inflorescence produced opposite the leaves, an umbellate cyme or panicle. Flowers bisexual, or unisexual and the plants monoecious, regular; sepals 4-5, united below in a 4- or 5-toothed calyx; petals 4-5, free or united below. Stamens 4-5. Ovary superior, 2-celled. Fruit a 1- to 4-seeded berry.

1. *Cissus* Linnaeus

Vines or shrubs; stems woody or herbaceous, with tendrils; tendrils without adhesive disc. Leaves simple and often palmately lobed, or palmately compound. Inflorescence of umbellate cymes. Flowers bisexual or unisexual; sepals 4; petals 4, free. Stamens 4. Fruit a 1- or 2-seeded berry.

**Key to Species**

1. Leaves simple; corolla green or pale yellow
1. Leaves trifoliolate; corolla red

2. *C. quadrangula* 1. *C. erosana*


Range: West Indies; Mexico to South America, including French Guiana. Infrequently grown as an ornamental in private gardens in French Guiana (de Granville, 1985).

2. *Cissus quadrangula* Linnaeus, *Mantissa Plantarum* 39 (1767). VELDT GRAPE. Climbing vine to 6 m. Stems strongly 4-angled, subalate, constricted at the nodes. Leaves falling early under dry conditions, simple, unlobed or often palmately 3-lobed, ovate, cordate or reniform in outline, serrate, to 11 x 11 cm. Petals greenish or pale yellow, with red specks. Fruit globose, red.


**Zygophyllaceae**

Herbs, shrubs or trees; branches often swollen or jointed at the nodes. Leaves opposite, pinnately compound, petiolate; stipules sometimes spinose. Inflorescence of terminal or axillary, solitary, paired or fasciculate flowers. Flowers bisexual, regular; sepals 4-5, free; petals 4-5, free. Stamens 8-10, free. Ovary superior, 2- to 12-celled. Fruit a capsule, often angled or spinose; seeds with or without aril.

1. *Guaiacum* Linnaeus

Evergreen trees or shrubs. Leaves evenly pinnately compound. Inflorescence a terminal or axillary, subumbellate cluster; flowers long-pedicellate. Stamens 8-10. Fruit a 2-to 5-angled capsule; seeds arillate.
Fig. 177. *Guaiacum officinale* (Zygophyllaceae).
1. *Guaiacum officinale* Linnaeus, *Species Plantarum* 381 (1753). POKHOUT (Surinam); LIGNUM VITAE. Tree to 9 m. Leaves to 9 cm, petiolate; leaflets 4 or 6 (2 or 3 pairs), ovate, elliptical or obovate, entire, glabrous, to 3.5 cm, sessile. Sepals pubescent. Petals pubescent at the apex, blue, to 1.2 cm. Stamens 10, blue. Fruit obovoid or cordate, flattened and 2-angled, yellow, to 2 cm; seeds with red aril.


The extremely hard wood of this species is a desirable commercial product.