



Survey Species Guide

Oahu Early Detection
Bishop Museum / Oahu Invasive Species Committee

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Acacia auriculiformis (Fabaceae)

Darwin black wattle, war-leaf acacia, ear-pod wattle, northern black wattle

Indonesia, Papua New Guinea, Northern Australia

Tree; Small to medium tree; bark hard, furrowed; phyllodes 12-20 cm x 3-5 cm glaucous, glabrous, falcate, with 3 prominent nerves; flower-heads rod-like, bright yellow; flowers in short, racemose spikes; pods 5-6.5 cm x 1-1.5 cm, hard, woody, nearly flat, twisted and almost spire-like, glaucous (Bailey & Bailey, 1976; Elliot and Jones, 1982; Neal, 1965).



Acacia mangium (Fabaceae)

mangium, mangium wattle, mange, forest mangrove

Australia, Molluccan Islands, Papua New Guinea, and Indonesia (PIER 2003).

Tree to 30 m tall, bole often straight, to over half the total tree height. Branchlets, phyllodes and petioles glabrous or slightly scurfy. Phyllodes 5-10 cm broad, 2-4 times as long as broad, dark green, chartaceous when dry. The phyllodes have (3-)4 longitudinal main nerves which join on the dorsal margin at the base of the phyllode, secondary nerves fine and inconspicuous. Flowers in loose spikes to 10 cm long, solitary or paired in the upper axils. Flowers pentamerous, the calyx 0.6-0.8 mm long, with short obtuse lobes, the corolla twice as long as the calyx (Duke 1983).



Acacia mearnsii (Fabaceae)

black wattle, tan wattle, Australian acacia, acacia noir, mosa, akasia, acacia negra
Australia

Unarmed, evergreen tree 5-10 (-15) m high; branchlets shallowly ridged; all parts finely hairy; growth tips golden-hairy; leaves dark olive-green, finely hairy, bipinnate; leaflets short (1.5-4 mm) and crowded; raised glands occur at and between the junctions of pinnate pairs. Flowers pale yellow or cream; flowerheads globular in large, fragrant sprays. Fruits dark brown pods, finely hairy, usually markedly constricted (Henderson, 1995).



Acacia melanoxylon (Fabaceae)

Australian blackwood, blackwood, blackwood acacia
Australia

Unarmed, evergreen tree 8-15 (-20) m high; trunk straight, crown dense and pyramidal to cylindrical. Leaves phyllodes, greyish turning dark dull-green, straight to slightly curved, with 3-7 prominent longitudinal veins and fine net-veins between; often bipinnate on young plants and coppice shoots. Flowers pale yellow, flower heads globular. Fruits reddish-brown pods, narrower than leaves, slightly constricted, twisted; seeds almost encircled by pinkish-red seed stalks (Henderson, 1995).



Acacia parramattensis (Fabaceae)

Parramatta green wattle, Sydney green wattle
Australia (New South Wales)

Tree (shrubby when young) up to 15 m tall; branches glabrous or with scattered hairs. Leaves bipinnately compound, with 6-14 pairs of pinnae, leaflets 30-44 pairs in all pinnae, linear-oblong, 2-5 mm long, 0.5-0.8 mm wide, with a nectary on the main rachis between or near each pair of pinnae. Flowers ca. 1.8 mm long, in heads ca. 5 mm in diameter (excl. stamens), these arranged in terminal leafy panicles not exceeding the subtending leaves; corolla pale yellow; stamens ca. 3 mm long. Pods oblong, laterally flattened, not constructed or constructed in only 1-2 places, 6-11 cm long, 0.4-0.75 cm wide, sutures yellowish, subglabrous (Wagner et al., 1999).



Acacia pennata subsp. insuavis (Fabaceae)

cha-om
Africa, Southeast Asia

Shrub or small tree up to 5 m tall. Stem thorny. "Young branches are pubescent, green in colour and turn brown with age. A large gland is present on the main rachis of leaves above the middle of the petiole. Leaves are bipinnate, pinnae 8-18 pairs; pinnules linear-oblong, glabrous, base oblique or truncate, up to 50 pairs per pinna, ciliate on the margins loosely set and overlapping. Flowers are in large terminal panicles, heads globose and pale yellow. The pods are thin, flat and long with thick sutures" (Bhumibhamon, 2002). Young leaves have a very strong smell (Bhumibhamon, 2002).



Acacia podalyriifolia (Fabaceae)

Queensland silver wattle, Mount Morgan wattle, pearl wattle, pearl acacia

Australia (Queensland)

Tall, glaucous, pubescent shrub or small tree up to 5 m in height. Phyllodes ovate or oblong, to 1 1/2 in. long, silvery grey. Flowers golden yellow, occurring in ball shaped clusters in the axils of phyllodes. Fruit to 3 in. long (ASGAP, 2001; Bailey and Bailey 1976).



Acacia retinodes (Fabaceae)

water wattle, swamp wattle, everblooming acacia

Australia, Tasmania

Shrub or small tree; phyllodes linear-lanceolate, to 5 in. long, nearly straight, with gland near base. Flower heads 1/4 in. across, in branched racemes shorter than phyllodes. Fruits narrow, to 8 in. long (Bailey and Bailey 1976).



Acacia saligna (Fabaceae)

coojong

Australia (Maslin & McDonald, 2004)

Shrub. "Variable shrubs or trees 2–10 m tall, either single- or multi-stemmed, mature trunks 5–40 cm dbh and straight to rather crooked, often suckering and sometimes forming thickets, in sand the main root may grow to 16 m deep (Knight et al. 2002 in Maslin & McDonald, 2004) but sub-surface lateral roots are also developed (Messines 1952 in Maslin & McDonald, 2004). Flowers yellow" (Maslin & McDonald, 2004).

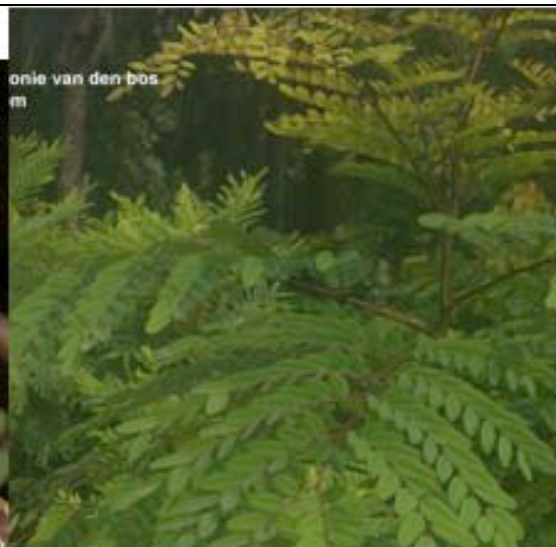


Acca sellowiana (Myrtaceae)

pineapple guava, feijoa, guavasteen

South America

Evergreen shrub or small tree, branches, buds and leaf undersides tomentose with short white trichomes; leaves opposite, elliptical to ovate, 3-8 cm long, 2-4 cm wide, margin entire, apex obtuse, usually rounded at the base, upper surface glossy dark green, under white tomentose; flowers single in the lowest 2 or 4 leaf axils of the current year's growth, 3-4 cm wide, 4 petals, broad elliptic-spoon shaped, recurved at the ends, whitish with red center, sepals 4; stamens numerous, to 2.5 cm long, carmine, anthers yellow; fruit an ovate, 5 cm long berry, with remnants of the calyx on the tip, yellow-green, edible, tastes somewhat like a pear" (Krüssmann, 1976 in PIER, 2006). Seeds 20-40, often aborted (Staples & Herbst, 2005).



onie van den bos
m

***Adenanthera pavonina* (Fabaceae)**

false wiliwili

Southeast Asia, India, Malaysia (Lorenzi, 2003 in ISSG, 2006)

Tree up to 15 m in height, deciduous (ISSG, 2006). Leaves with 2-6 pairs of pinnae; leaflets 6-12 pairs, 2-5 cm long, ovate, obtuse, glabrous, rather pale green, thin; flowers in slender, elongate racemes, borne in axils; flowers yellowish, sweet-fragrant; calyx 4-5-toothed; stamens 8-10; pods slender, linear, curved or contorted, dehiscent, thin, flattened, brown, smooth and shiny inside; seeds lenticular, suborbicular, hard, dark or bright red, about 8 mm wide, 10-12 per pod (Stone, 1970 in PIER, 2006).



***Ailanthus altissima* (Simaroubaceae)**

Chinese sumac, Chinese tree of heaven, stinktree, varnish tree
East Asia

Tree, 8-10 m in height, deciduous (PIER, 2006). "Branchlets robust, reddish-brown, ascending; leaf rachis held erect but leaflets tend to droop; suckers profusely. Leaves: Dark green with yellowish autumn tints, 300-600 (-1000) mm long; leaflets with 1-4 large, basal, gland-bearing teeth; bad-smelling when bruised. Flowers: \pm Greenish-yellow, \pm 3 mm long, unisexual and bisexual, male flowers bad-smelling, in large terminal sprays. Fruits: Samaras \pm long, green turning reddish-orange, twisted, in large bunches up to 300 mm across" (Henderson, 1995 in PIER, 2006).



Artabotrys hexapetalus (Annonaceae)

Climbing ilang-ilang, climbing ylang-ylang, ylang-ylang
Southern India, Sri Lanka

Vine, woody. "The old stems of great thickness, covered with rather smooth grey bark and furnished with thick woody pointed spreading spines 2-4 cm long. Leafy branches slightly puberulous. Leaf-blade 6-15 cm long, 2-4.5 cm wide, narrowly elliptical, usually 3 to 4 times as long as wide, acute or almost so at base, short-acuminate at apex, not glossy; lateral veins 8-16 pairs. Pedicel sparsely pubescent. Sepals about 5 mm long, pubescent on outside. Outer petals up to 1 cm wide. Carpels glabrous" (Dassanayake, 1983 in PIER, 2006).



Arundo donax (Poaceae)

giant reed, Spanish reed, giant cane, giant feather-reed grass
Tropical Asia, Mediterranean.

Now widely naturalized in warm temperate to tropical areas. Grass. Large perennials; culms erect or arching, up to 8 m tall, unbranched or branched above, arising from thick, scaly rhizomes, nodes glabrous, usually concealed, internodes hollow, up to 4 cm in diameter. Leaves strongly distichous, distributed rather uniformly along culm except on old stems; sheaths longer than internodes and strongly overlapping, glaucous, glabrous to sometimes sparsely long-villous at throat (Wagner et al., 1999).



Bassia hyssopifolia (Chenopodiaceae)

bassia, five-hook bassia, thorn orache, five-horn smotherweed
Europe, Asia (Kyser & Hoshovsky, n.d.)

Herb, 5-100 cm, annual, silky villous throughout, often densely so, especially on younger parts. Leaves sometimes succulent, linear to narrowly oblanceolate, 0.5-4 cm. long, young ones silky villous. Flowers in axillary clusters; calyx lobes ca. 1 mm long, villous, each one with a reddish, spreading, hooked spine.



Bauhinia vahlii (Fabaceae)

malu creeper
Tropical Asia (USDA, GRIN, n.d.)

Woody vine, huge in size. "Branches densely hairy, tendrils circinate, usually opposite the leaves. Leaves alternate, petiolate, petiole c. 7.5-9 cm long, cordate at the base, lobed at the apex, orbicular in shape, 10-46 cm long and almost as broad, sparsely hairy on the upper and densely hairy on the lower surface. Inflorescence terminal, subcorymbose, densely hairy raceme; bracteoles persistent. Flowers white turning buff with age. Hypanthium c. 5-8 mm long. Calyx 3-5 lobed, c. 10-12.5 mm long, splitting into 2-3 parts, densely villous. Petals 5, c. 1.7-4.3 cm long, shortly clawed, spatulate, hairy externally. Fertile stamens 3, 2-7 staminodes may be present (Flora of Pakistan, n.d.).



Bocconia frutescens (Papaveraceae)

Bocconia

Central and South America, West Indies (PIER, 2007).

Shrub. "Branched shrubs; stems 2-6 m long, pith white. Leaves often somewhat congested toward the tips of the branches, oblong-obovate to oblong-lanceolate, 10-45 cm long, 4-20 cm wide, pinnately cleft ca. 1/2 to midrib, upper surface sparsely strigillose, lower surface glaucous and puberulent, especially along veins. Panicles densely branched, 20-60 cm long, bracts lanceolate, 2-5 mm long, pedicels 3-10 mm long; sepals erect, elliptic, 8-10 mm long; stamens 8-10; filaments filiform; anthers linear, pendent by the filaments at anthesis. Capsules grayish at maturity, pulp pale yellow, ca. 12 mm long, stipe ca. 5 mm long. Seed 1, black, 6-7 mm long, the surface smooth and glossy, the lower 1/2-1/3 covered with a red, pulpy aril" (Wagner et al, 1999).



Buddleja davidii (Buddlejaceae)

butterfly bush

Tibet and Central China

"Shrub, 1-3 m high, the fragrant flowers with lilac corollas orange-yellow in throat (Smith, 1991 in PIER, 2007). ""Stems up to 3-5 m. Leaves opposite, lance shaped, deep green above, lower surface white-tomentose, margins finely toothed, up to 9-25 cm long. Flowers densely clustered in cones born at the tips of canes. Corolla tube 9-12 mm long, lilac with orange eye, fragrant, in erect or nodding spikes to 25 cm long. Some of the different flower colors obtainable include pink, purple, mauve, red, blue, orange, yellow, and white. Fruit is a two valved capsule that splits downwards to release about 50 seeds. (Neal 1965, Williams 1979, Brenzel 1995, Wagner et al. 1999 in Starr et al., 2003).



***Buddleja madagascariensis* (Buddlejaceae)**

smoke bush

Madagascar

"Vine shrub, 2-3(-8) m tall; stems densely tomentose. Leaves opposite, narrowly ovate, 7-12 cm long, 2-4.5 cm wide, upper surface glabrous, lower surface densely tomentose, margins entire, petioles 1.5-2.5 cm long. Flowers in terminal, thyrsoïd cymes; calyx campanulate, ca. 3 mm long, densely tomentose, the lobes ca. 0.5 mm long; corolla orange, densely tomentose externally, glabrous within; ovary pubescent. Fruit white, becoming bluish purple at maturity, fleshy, globose, indehiscent, ca. 2.5 mm in diameter. Seeds ellipsoid, ca. 1 mm long" (Wagner et al. 1999).



***Centranthus ruber* (Valerianaceae)**

red valerian

Mediterranean (Starr et al., 2003)

Herb, "stems ascending, 3-8 dm long, usually branched. Leaves lanceolate to ovate or broadly ovate, 3-8(-12) long, (0.5-)1-5(-6) cm wide, entire or the uppermost occasionally irregularly dentate, sessile and amplexicaul. Flowers numerous, crowded in usually oblong, cymose inflorescences; 2 corolla red, pink, or white, the tube (5-)7-11 mm long, with a basal spur (2-)5-12 mm long. Fruit 3-4 mm long, ribbed" (Wagner et al. 1999).



***Chromolaena odorata* (Asteraceae)**

bitter bush, Christmasbush, chromolaena
Tropical America

Herb or subshrub, large, bushy, with long rambling (but not twining branches; stems terete, pubescent; leaves opposite, flaccid-membranous, velvety-pubescent, deltoid-ovate, acute, 3-nerved, very coarsely toothed, each margin with 1-5 teeth, or entire in youngest leaves; base obtuse or subtruncate but shortly decurrent; petiole slender, 1-1.5 cm long; blade mostly 5-12 cm long, 3-6 cm wide, capitula in sub-corymbose axillary and terminal clusters; peduncles 1-3 cm long, bracteate; bracts slender, 10-12 mm long; involucre of about 4-5 series of bracts, pale with green nerves (Stone, 1970).



***Cinchona pubescens* (Rubiaceae)**

quinine tree, red cinchona
Central America and South America

Tree to ca. 12 m tall. Leaves opposite, simple; blade broadly ovate, ca. 10-22 cm long, upper surface shiny green at first, turning red with age, margins entire. Flowers in terminal panicles; corolla pinkish, salverform with 5 lobes, ca. 1.5 cm long, throat covered with whitish pink hairs; stamens 5. Fruit a capsule, oblong, 1-2 cm long; seeds numerous, winged (McMullen, 1999).



Cinnamomum verum (Lauraceae)

cinnamon

Asia

Tree. "Young branches dark brown, terete, glabrous. Leaves opposite or subopposite, coriaceous, ovate to broadly ovate, 10-15 cm long, 4-8 cm wide, tripliveined, glabrous, apex blunt or slightly acute, petioles stout, ca. 1 cm long. Flowers gray pubescent, in axillary, sparsely strigose inflorescences as long as or longer than leaves; tepals 6, equal, erect; fertile stamens 9. Fruit an ellipsoid berry, ca. 1 cm long, subtended by a cupule with persistent tepals attached to the rim" (Wagner et al., 1999).



Clerodendrum quadriloculare (Verbenaceae)

bronze leaf clerodendrum, fire works, Philippine glorybower
New Guinea and Phillipines

Shrub or small tree 2 to 5 m high, erect, glabrous or nearly glabrous. Leaves oblong, 15-20 cm long, apex shortly acuminate, base rounded, the upper surface green, the lower surface usually uniformly dark-purple. Cymes terminal, paniced, usually many-flowered. Calyx urceolate, purple about 1 cm long, about 2 mm in diameter, the limb spreading, the lobes oblong-elliptic, about 1.5 cm long. Fruit ellipsoid, 1 to 1.5 cm long, purplish, the persistent calyx red and 1 to 1.5 cm long (Merrill, 1912).



***Cordia alliodora* (Boraginaceae)**

Central America

Tree; flowers white, petals free, inflorescence a cyme of umbels, flws can have a garlic-like, wet-dog-like odor (D. Lorence); leaves usu lanceolate elliptic 10-20 x 3-8 cm, stellate-pilose or glabrate on both surfaces; inflorescences loosely branched, 10-30 cm across; calyx cylindric, 4-6 mm long, densely stellate-tomentose, with 10 prominent ribs; corolla white, drying brown, marcescent, the lobes 5-7 mm long; fruit cylindric, about 5 mm long, enveloped by the persistent corolla and calyx tube" (Smith, 1991 in PIER, 2006).



***Cortaderia jubata* (Poaceae)**

pampas grass, jubata grass

South America

Grass, tussock-forming, "up to 3 m in diameter, flowering stalks up to 3 m high. Leaves: Bright green, up to 1.5 m long x 12 mm wide, reflexed, tips not bristle-like, blade flat to only slightly v-shaped in cross-section, margins rough, cutting; leaves mostly basal to half the height of the flowing stalks. Inflorescence yellowish or purple, loosely branching, feathery, 600-800 mm long. Fruits: seeds, falling from old inflorescence which remains a dark or yellowish color" (Henderson, 1995 in PIER, 2007).



Cortaderia selloana (Poaceae)

pampas grass
South America

Grass, tussock-forming, "up to 3.5 m in diameter; flowering stalks up to 4 m high. Leaves grayish- or bluish-green, up to 1.8 m long x 10 mm wide, reflexed, tips narrowly tapering, bristle-like, blade often v-shaped in cross section, margins rough, somewhat cutting; leaves mostly basal to two-thirds of the height of the flowering stalks. Inflorescence silvery-white to pink or mauve, stiffly branching, feathery, 400-700 mm long. Fruits: Seeds, falling from old inflorescence which then appears white" (Henderson, 1995; in PIER, 2007).



Corynocarpus laevigatus (Corynocarpaceae)

karaka nut
New Zealand

Tree, "3-15 m tall; branches stout. Leaves dark green, glossy, thick, coriaceous, elliptic to oblong-obovate, (5-) 10-15 (-20) cm long, (3-) 5-7 cm wide, margins slightly revolute, petioles 1-2 cm long. Flowers in stout, stiff panicles usually 15-20 cm long; sepals suborbicular, ca. 3 mm long; petals greenish yellow, obovate, ca. 5 mm long, margins minutely toothed; staminodes spatulate, minutely toothed. Drupes orange, ellipsoid to ovoid, 2.5-4 cm long" (Wagner et al., 1999).



Cotoneaster pannosus (Rosaceae)

silverleaf cotoneaster

China

Shrub, 2-5 m tall. Leaves simple, blades elliptic, 1.5-3 x .8-1.6 cm, glabrous above, whitish tomentose beneath, apex mucronulate, petiole 5-8 mm. Flowers in terminal corymbs, petals white. Fruit a bright red pome, subglobose to ellipsoid, 5-7 mm in diam; seeds 2-5, 4-5 mm long (Lorence et al. 1995 in Starr et al., 2003).



Cryptostegia grandiflora (Asclepiadaceae)

rubbervine

Madagascar

Vine shrub, "leaves oblong, 3-4 in. long, glabrous and shining. Flowers lilac-purple, 2-3 in. across, calyx leafy, about .5 in. long; corolla lobes deeply forked into 2 filiform segments, follicles to 4 in. long, sharply angled." (Bailey and Bailey 1976 in Starr et al., 2003). "Seed pods are rigid and grow in pairs at the end of a short stalk. The 2 pods are 10-12 cm long, 3-4 cm wide and each can contain up to 450 brown seeds. Each seed has a tuft of long white silky hairs which enable easy dispersal by wind and water" (DNRM 2001 in Starr et al., 2003).



***Cryptostegia madagascariensis* (Asclepiadaceae)**

rubbervine

Madagascar

Vine shrub. Stems with few, prominent lenticels. Lamina elliptic, up to 9.2 cm long and 5.2 cm wide, glabrous or with indumentum on both sides or adaxial side only; secondary veins 14-16 per side of midrib; tip shortly acuminate; base truncate; petiole 3.7-16.6 mm long, 0.6-2.9 mm diameter. Cyme with 1-4 fascicles. Flowers 3-4 cm long, 5-6 cm diameter; pedicels 3.1-7.7 mm long, 2.4-3.8 mm diameter, glabrous or with sparse indumentum. Corolla pale pink; tube 12-23 mm long, 6-12.3 mm diameter; lobes 24-41.4 mm long, 12-24.6 mm wide. Calyx lobes lanceolate-ovate, 9-14 mm long, 3.5-6.9 mm wide. Corolline corona of 5 entire filaments in throat of tube, each filament 6-8.5 mm long (Marohasy and Forster, 1991).



***Cytisus palmensis* (Fabaceae)**

Tagaste, tree Lucerne, escobon

Canary Islands

Shrub or small tree to 4 m high, branches pendulous, softly hairy. Leaves 3-foliolate; leaflets narrow-elliptic, 10-45 mm long, 4-13 mm wide, apex mucronate, upper surface glabrous, lower surface sparsely hairy. Flowers in terminal umbels; pedicels 7-20 mm long; bract and bracteoles linear. Calyx 9-10 mm long, villous, tube c. 5 mm long, teeth fused for most of their length. Corolla cream to white; standard 14-17 mm long; wings and keel almost as long as standard. Pod sessile, greenish to brown, flat, 40-50 mm long, c. 8 mm wide, densely pilose; seeds c. 10 mm long (<http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Chamaecytisus~palmensis>).



***Delairea odorata* (Asteraceae)**

African ivy, German ivy, cape ivy
South Africa

Vine, fleshy, perennial, woody at least below; stems 1-30 (- 60) dm long, glabrous throughout. Leaves broadly deltate, blades 3-10 cm long, 3-6 cm wide, palmately veined, shallowly 3-10-lobed, petioles 1.5-7 cm long. Heads in dense terminal and axillary cymes, discoid; involucre bracts 3-4 mm long; disk corollas yellow, ca. 4.5 mm long. Achenes ca. 2 mm long. (Wagner et al., 1999) This bushy vine can cover vegetation to a considerable height. Stems are green or purple (Csurhes, 1998).



***Derris elliptica* (Fabaceae)**

tubaroot, derris
India into Malaysia.

Scandent shrub or woody vine 5-12 m long, velvety pubescent; shoot apex often leafless for several meters. Leaves pinnate, 15-30 cm long, mostly with 11-15 leaflets; leaflets narrowly oblong-obovate, 4-25 cm long, rounded at base, entire, rounded to shortly acuminate, rusty-velvety, somewhat glabrescent, glaucous beneath; petiole 3-7 mm long. Flowers usually in stalked clusters of 3, combined into pseudorachemes 15-25 cm long, rusty pubescent. Calyx 6-8 mm long, shallowly toothed. Petals pink; standard 13-17 mm diam., with 2 auricles at base, softly ferruginous-hairy outside; wings and keel with interlocking longitudinal folds. Fruit elliptic to oblong-elliptic, 3.5-7 cm long, flat, leathery (Du Puy, 1993).



Dorstenia contrajerva (Moraceae)

contra yerba
NW tropical America

Herb. "Thick, succulent stem; rosette of long-petiolate, usually palmately 7-lobed and jagged-edged leaves, dark green mottled silvery green, hairy on both sides; and an inflorescence with a 6-12" long stalk and a squarish, flat or concave receptacle with a crimped rim that has minute, unisexual, whitish flowers packed onto it. Tiny, 1-seeded fruits are propelled off the receptacle when ripe" (Staples & Herbst, 2005).



Dovyalis hebecarpa (Flacourtiaceae)

ceylon gooseberry
Sri Lanka

Tree. "Up to 6 m tall; trunk and branch base thorns slender, 4 cm long. Leaf blades ovate-oblong to oblong-lanceolate, underside shortly hairy, especially along midrib and veins. Flowers (male) 8-10 in clusters, hairy, stamens 50-60; (female) 1-3 in leaf axils or on leafless twigs, ovary hairy, styles 5-7. Fruit globose, 2.5 - 4 cm, purplish, velvety-hairy. Seeds 9-12, densely hairy" (Staples & Herbst, 2005).



***Eichhornia crassipes* (Pontederiaceae)**

water hyacinth

Amazon basin

Water plant, "stems short, floating or rooting in mud, rhizomatous or stoloniferous, rooting from the nodes; roots long, sometimes dark because of their purple anthocyanin, pendant; leaves in a rosette; petioles spongy, in young specimens short and with a one-sided swelling or inflation but up to 30 cm long when older, tapering and narrowing from the bulbous base to the point of attachment with the lamina; lamina circular to kidney-shaped, glossy smooth, 4 to 15 cm long and wide, acting as a sail in the wind; inflorescence in spikes with about eight flowers (Holm et al., 1977 in PIER, 2007).



Enchylaena tomentosa © Murray Fagg ANBG

***Enchylaena tomentosa* (Chenopodiaceae)**

ruby saltbush

Australia (USDA, ARS, 14 November 2007)

Shrub. Low-growing, semi-woody with procumbent or ascending pubescent, trailing branches which may grow to 1 m long. A height of 1 m is occasionally attained, however, plants are often less than half this size and some forms are prostrate. The evergreen leaves, which are cylindrical, semi-succulent and up to 2 cm long, are covered with fine white hairs (tomentose), giving the plant an attractive grey appearance overall. The single, axillary flowers are inconspicuous and occur from spring to early summer and autumn. These are followed by very showy, small (5 mm diameter) fruits that are red when ripe.



***Equisetum arvense* (Equisetaceae)**

field horsetail

North America

Fern Ally



***Eustrephus latifolius* (Smilacaceae)**

bamboo vine

Australasia (Staples & Herbst, 2005).

Vine. Up to 3 meters tall, stems twining. Leaves ovate to narrowly lanceolate, 2.5-4.25" x 0.33-1, shape highly variable in wild populations, veins inconspicuous. Flowers small, white or purplish with fringed inner tepals. Fruit a dehiscent capsule, orange. Seeds numerous, black, covered in white aril (Staples & Herbst, 2005).



Euterpe oleracea (Arecaceae)

acai, assai palm, cabbage palm
Central and South America

Palm. "Cespitose palm, with 4-20 stems, exceptionally one, to 20 m (30 m in shady areas). Propagation by seeds (recalcitrant; germination in 20-40 days) or basal shoots. The fruit is a globose berry, 1.5 cm in diameter, green turning dark green purple, or black at complete maturity; then covered by a whitish powdery layer. Large endocarp (80% of the fruit), fibrous, containing an oily endosperm. High polymorphism" (Fruits from America cited in PIER, 2007).



Ficus religiosa (Moraceae)

bo tree
India to Southeast Asia (Starr et al., 2003)

Tree. "Small tree, or taller strangling climber, with wide-spreading branches, semi- or fully deciduous in monsoon climates, and broadly ovate, glossy, leathery, dark green leaves, 5-7 in (12-18 cm) long, with unusual tail-like tips. Bears pairs of rounded, flat topped green figs, to 1/2 in (1.5 cm) across, ripening to purple with red dots" (Brickell and Zuk 1997 cited in Starr et al., 2003).



Flueggea virosa (Euphorbiaceae)

Chinese waterberry
Africa, Asia, Australia

Tree shrub. Dioecious. Flowers inconspicuous, borne in clusters. Male flowers are often much more numerous than the female flowers. Fruits white when mature, fleshy, 4 mm in diameter and eaten by birds.



Gaura lindheimeri (Onagraceae)

gaura
Southern US (Missouri Botanical Garden, 2007).

Herb. "Clump-forming, vase-shaped, somewhat shrubby perennial which typically grows 3-4' tall and is perhaps best known for its 4-petaled, butterfly-like flowers and long bloom period (spring to early autumn). Pinkish buds along wiry, erect, wand-like stems open to white flowers which slowly fade to pink. Flowers appear in long, open, terminal panicles and open only a few at a time. Narrow, lance-shaped, stemless leaves (1-3" long) are occasionally spotted with maroon" (MBG, 2007).



***Hibiscus makinoi* (Malvaceae)**

sakishima cottonrose



***Hiptage benghalensis* (Malpighiaceae)**

hiptage

India to Southeast Asia and the Philippines (PIER, 2007).

Shrub vine. "Branches scandent to 5 m high or more. Leaves simple, opposite, blade usually elliptic and 6-18 cm long with an attenuate tip. Flowers intermittently during the year; flowers many, fragrant, borne in compact axillary racemes. Corolla of five free, elliptic to round, reflexed petals 1-1.7 cm long, white with one petal yellow in the center, margins fringed. Fruit a samara with three spreading, papery, oblanceolate to elliptic wings 2-5 cm long" (Whistler, 2000 cited in PIER, 2007).



Hura crepitans (Euphorbiaceae)

sandbox tree

Tropical America

Tree. Heights up to 25 m tall. Leaves with petioles to 20 cm long; blades ovate to orbiculate, 12-25 x 7-15 cm, base cordate, apex acuminate to subcuspidate, margin crenate with glandular teeth, prominently pinnate-veined, sparsely long-pubescent on lower surface. Staminate inflorescences on peduncle to 10 cm long, staminate flowers 60 to 80 on axis 2-4.5 cm long, column with 2 or 3 verticels of anthers; pistillate flowers with peduncles > 5 cm long, calyx 3-5 mm long, truncate, styler column 2.5-5 cm long, fleshy apical disk to 1 cm in diameter, with radiating tips 1 cm long (Howard, 1989 cited in PIER, 2006).



Hypericum canariense (Clusiaceae)

Canary Islands St. Johnswort

Canary Islands

Shrub, many-branched, 1-4 m tall. Leaves oblong-lanceolate to narrowly elliptic-lanceolate, 5-7 cm long, 1.2-1.6 cm wide, glabrous, glandular punctate with translucent glands, base cuneate to attenuate, sessile and somewhat amplexicaul. Flowers 2-3 in cymes terminating the upper stems, the cymes arranged in panicles, pedicels 10-20 mm long in fruit; sepals ovate to lanceolate, ca. 3 mm long, apex acute to obtuse; petals yellow, spatulate, ca. 17-19 mm long, apex hooded; stamens 12-36, in 3 clusters; styles 3. Capsules coriaceous, ovoid, 3-lobed, apex truncate. Seeds numerous, pale reddish brown, elongate-cuneate, 1.4-1.6 mm long, reticulate (Wagner et al., 1999).



Imperata cylindrica (Poaceae)

cogon grass, imperata, Japanese blood grass
Old World

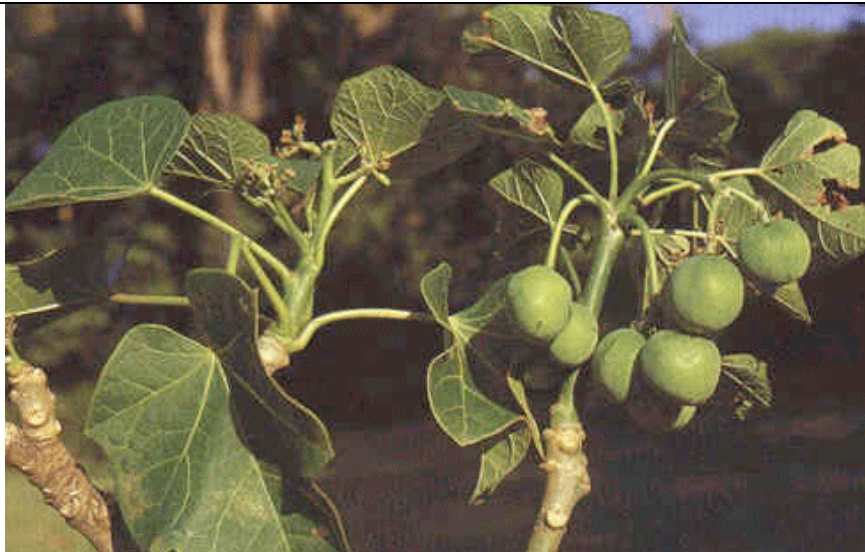
Grass; Rhizome subterranean; flowering culms of few internodes, tall; lf-blades nearly all arising from near the base of the culm, very long, erect; infl a much branched panicle, its branches ascending close to the main axis, the whole compact and cylindric at flowering; branchlets not jointed, spikelets paired or solitary, all alike, bisexual, if paired pedicels unequal, and bearing a few long fine hairs near the thickened top and many fine spreading white hairs also on the base of the spikelets, hairs twice as long as the glumes or more; glumes about equal, hairy on the back, thin; lower floret neuter, lemma much smaller than the glumes.



Ipomoea carnea (Convolvulaceae)

bush morning glory
Tropical America (Smith, 1991 cited in PIER, 2006).

Shrub. "1-5 m high, cultivated and occasionally naturalized near sea level; stems hollow; petiole 2.5-15 cm long; leaf blades ovate to lanceolate, 10-25 cm long, truncate to shallowly cordate at base, long-acuminate; sepals suborbicular, 5-6 mm long; corolla 5-9 cm long, finely tomentose without, rich pink, deeper pink to purple at base, the limb spreading to 11 cm in diameter; filaments unequal, dilated and pilose at base; fruit ovoid to subglobose, 1.5-2 cm long, the seeds covered with long, woolly, brown trichomes" (Smith, 1991 cited in PIER, 2006).



Jatropa curcas (Euphorbiaceae)

physic nut

Caribbean (PIER, 2006).

Shrub. "Up to 3 m tall; leaves usually 3-5-lobed, rarely simple, cordate, palmately nerved, dull olive green, the lobes acute, rather short; petioles 10-14 cm long; blades 10-19 cm long; panicles terminal or axillary; flowers yellow-green; sepals somewhat petaloid; petals basally coherent; male flower with internally pubescent corolla; stamens many, disc of 5 unequal glands; ovary 3 (sometimes 2 or 4)-celled; capsule gray-brown; seeds oily, compressed elliptic-oblong, ovary 1 cm long, nearly black" (Stone, 1970 cited in PIER, 2006).

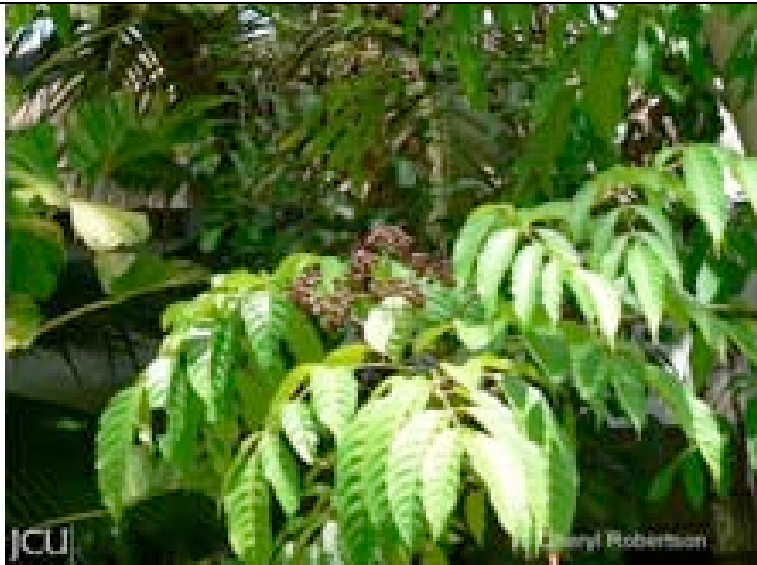


Jatropa gossypifolia (Euphorbiaceae)

belly-ache bush

Brazil

Shrub. "Up to about 1.5 m tall; leaves membranous, 3-5-lobed, purplish, stick with capitate glandular hairs, slightly serrate, on petioles about 6-9 cm long, blades about 10 cm long and wide or somewhat larger, ciliate; panicle axes purple, 10-15 cm long, sticky-hairy; flowers dark red, just ovary 1 cm broad, petals free; disc lobed; fruit oblong, 2-3-lobed, brown when ripe, about 1.3 cm long" (Stone, 1970 cited in PIER, 2006).



Leea indica (Leeaceae)

kalet

Shrub. "A spreading understory shrub with pithy stems, the leaves are bi- to tripinnate and up to 60 cm long. The small greenish-white to cream flowers are borne in cymes to about 20 cm across, these are followed by a black ovoid berry with 4-5 seeds" (James Cook University, 2007).



Leptospermum scoparium cv. Double Form (Myrtaceae)

manuka

Australia and New Zealand (PIER, 2006).

Shrub. "Up to 2-5 m tall, bark shredding into long strips; young branches silky pubescent. Leaves linear-lanceolate to linear-elliptic or occasionally ovate, 9-14 mm long, 1.5-4 mm wide, silky pubescent when young, soon glabrate, glandular-dotted, apex attenuate to a pungent tip. Sepals broadly deltate, ca. 1.5-3.5 mm long, minutely tuberculate, glabrous, apex obtuse; petals pink or white, ca. 5-8 mm long, glandular-dotted. Capsules 5-valved, 5-6 mm in diameter, slightly exerted from hypanthium" (Wagner et al., 1999 cited in PIER, 2006).



Leycesteria formosa (Caprifoliaceae)

Himalayan honeysuckle
Tropical and temperate Asia

Vine.



Ligustrum lucidum (Oleaceae)

glossy privet
Temperate Asia (USDA, ARS 14 November 2007).

Shrub. Up to 25 m, evergreen or deciduous, glabrous. Branchlets terete. Petiole 1-3 cm; leaf blade ovate to sometimes broadly elliptic or elliptic to lanceolate, 6-17 × 3-8 cm, leathery or papery, base rounded or sometimes attenuate, apex acute to acuminate or sometimes obtuse; primary veins 4-11 on each side of midrib, slightly raised or obscure. Panicles terminal, 8-20 × 8-25 cm; rachis angular in fruit. Flowers sessile or nearly so. Calyx 1.5-2 mm. Corolla 4-5 mm; tube ca. as long as lobes. Stamens approaching apex of corolla lobes; anthers 1-1.5 mm. Fruit deep blue-black, ripening red-black, reniform or nearly so, 7-10 × 4-6 mm. Fl. May-Jul, fr. Jul-May.



Ligustrum sinense (Oleaceae)

Chinese privet

Eurasia to Malaysia and tropical Australia

Shrub. "Small trees or erect shrubs, sometimes deciduous; leaves simple, short-petiolate, the blades entire, often glandular beneath; inflorescences terminal, thyrsoid or paniculiform, bracteate, the flowers small, 4-merous, subsessile or short-pedicellate; calyx campanulate, truncate or shortly 4-dentate; corolla infundibular or campanulate, the tube equal to or longer than calyx tube, the lobes induplicate-valvate in bud, becoming spreading, slightly shorter than or longer than corolla tube; stamens 2, inserted on corolla tube, the filaments slender, short, the anthers basifixed, ellipsoid or oblong, usually exserted; ovary subglobose, the ovules 2 per locule, pendulous, the style often filiform" (Smith, 1988).



Lonicera japonica (Caprifoliaceae)

Japanese honeysuckle

Eastern Asia and Japan

Vine. "Sprawling and twining lianas; young stems pubescent. Leaves ovate, elliptic, oblong or broadly lanceolate, blades 3-8 cm long, 1-3.5 cm wide, pubescent, becoming glabrate above, entire or young lower leaves sometimes lobed. Flowers 2 in axillary cymes, bracts 1-2 cm long, bracteoles suborbicular, ca.1 mm long; corolla white, turning yellowish or tinged pink, 2-lipped, 2-3 cm long. Berries bluish black, globose, 6-7 mm in diameter" (Wagner et al., 1999).



Medinilla crassata (Melastomataceae)

Medinilla 'Lalique'

Shrub



Medinilla cumingii (Melastomataceae)

medinilla

Philippines (PIER, 2006).

Shrub. "Shrub to 8' tall, with square stems, opposite 6-15"" leathery leaves lacking stalks, 1/2"" bracts below the flower clusters, 1"" pink flowers, and 1/4"" purple-black fruits with a white tip"" (Hawaii's Most Invasive Horticultural Plants cited in PIER, 2006).



Medinilla magnifica (Melastomataceae)

magnificent medinilla
Philippines (PIER, 2006).

Shrub. "Glabrous, 1-2 (-3) m high. Branches quadrangular, compressed, distinctly winged, 10 mm in diameter; nodes densely setose, tufted with brownish stiff bristles c. 10 mm long, soon deciduous with age. Leaves opposite, sessile; blades thickly coriaceous, elliptic to oblong, 30-34 (-45) cm long, 14-26 (-18) cm wide; apices acute; bases obtuse to shortly attenuate; 9-plinerved; occasionally 11-plinerved and if so, the marginal pair evanescent; nerves flattened adaxially, slightly raised abaxially; transverse veins faintly distinct adaxially, absent abaxially" (Regalado, 1995 cited in PIER, 2006).



Medinilla scortechinii (Melastomataceae)

Shrub.



Medinilla venosa (Melastomataceae)

holdtight

Celebes, Moluccas and the Philippine Islands (PIER, 2006).

Vine Shrub. Erect shrubs 2-3 m tall; uppermost branches rounded, covered with spreading, plumose, brown hairs. Leaves somewhat unequal in each pair, elliptic, elliptic-oblong, or elliptic-lanceolate, 7-18 cm long, 2.5-9 cm wide, pinnately nerved with 3-4 pairs of primary nerves diverging from the central nerve at successive points above base of blade, upper surface essentially glabrous at maturity, lower surface covered with spreading, plumose hairs, margins entire, apex acute to acuminate, base of larger leaves rounded to subauriculate, petioles 4-40 mm long. (Wagner et al., 1999).



Melastoma sanguineum (Melastomataceae)

fox-tongue melastoma

Malay Peninsula, Java, Sumatra, Vietnam and southeastern China (PIER, 2006).

Shrub. "Erect shrubs or small trees 2-4 (-8) m tall, branches and petioles sparsely covered with spreading, smooth hairs 5-15 mm long, but often intermixed with or replaced by appressed, smooth, subulate hairs usually 1 mm or less long. Leaves ovate-lanceolate, (8-) 10-20 cm long, 2-4 (-6.5) cm wide, 5 (-7)-nerved, upper surface moderately covered with hairs that are adnate to the epidermis for most of their length, lower surface strigillose with scattered appressed, lanceolate scales on the elevated nerves, margins entire, apex acuminate to attenuate, base obtuse to rounded, petioles 10-20 (-30) mm long" (Wagner et al., 1999).



Melochia umbellata (Sterculiaceae)

melochia

India and eastward to New Guinea (PIER, 2006).

Tree. Small trees or shrubs 2-15 m tall; young stems tomentose with stellate hairs. Leaves broadly ovate, 9-30 (-50) cm long, 3.8-15 (-27) cm long, stellate pubescent, margins irregularly crenate-serrate, base rounded to cordate, petioles 2.5-11 (-20) cm long, stipules ovate to suborbicular, 4-10 mm long, deciduous. Flowers in open corymbiform cymes, the ultimate divisions umbellate, peduncles 3-7 (-11) cm long, pedicels 1-3 mm long; calyx yellowish green to pinkish brown, the lobes deltate, 2-3.5 mm long, pubescent with stellate and also simple or forked hairs (Wagner et al., 1999).



Merremia peltata (Convolvulaceae)

merremia

Indo-Pacific (PIER, 2006).

Vine. Coarse glabrous twiner; leaves broadly cordate to orbicular, peltately attached, obtuse in general outline but very shortly and abruptly acuminate, strongly nerved; peduncles with a paniculate cyme of as many as 13 or more flowers; sepals glabrous, strongly concave or somewhat ventricose, to 2 cm long, obtuse, only slightly accrescent but becoming very firm and hard in fruit; corolla white or yellow, 5-6 cm long, ribs slightly glandular-puberulent without, broadly campanulate funnelform; capsule about 15 mm long, splitting into many lanceolate valves; seeds dull brown, densely long-pilose. Both yellow and white-flowered forms are known"" (Fosberg and Sachet, 1977 as cited in PIER, 2006). Roots large, tuberous (Stone, 1970 as cited in PIER, 2006).



***Metrosideros excelsa* (Myrtaceae)**

pohutukawa

New Zealand (Staples & Herbst, 2005).

Tree. This species can be distinguished from native *Metrosideros* by "its more or less dense covering of whitish, woolly hairs; long-stalked inflorescences of larger, bright red flowers, with a prominent nectary disc inside the ring of stamens; and very hairy ovary and capsule, which projects beyond the enclosing receptacle" (Staples & Herbst, 2005).



***Metrosideros kermadecensis* (Myrtaceae)**

reverse-variegated ohia haole

Tree.



Miconia calvescens (Melastomataceae)

miconia

Central and South America Csurhes & Edwards, 1998 as cited in PIER, 2006).

Tree Shrub. An evergreen tree up to 15 m tall, with large, attractive leaves dark green above and purple beneath. The leaves have three distinctive veins running from the base to the tip of the leaf. Flowers are sweet-scented, short-lived, white to pink in color. Fruits are dark purple, sweet, and attractive to birds"" (PIER, 2006). "Branchlets, these often sulcate, inflorescences and sometimes the 5 leaf nerves beneath more or less mealy-pubescent with minute stellate trichomes; petioles 2-6 cm long" (Macbride, 1941as cited in PIER, 2006).



Mikania micrantha (Asteraceae)

mikania, mile-a-minute, American rope

Central and Southern America

“A branched, slender-stemmed perennial vine. The leaves are arranged in opposite pairs along the stems and are heart-shaped or triangular with an acute tip and a broad base. Leaves may be 4-13 cm long. The flowers, each 3-5 mm long, are arranged in dense terminal or axillary corymbes. Individual florets are white to greenish-white. The seed is black, linear-oblong, five-angled and about 2 mm long. Each seed has a terminal pappus of white bristles that facilitates dispersal by wind or on the hair of animals" (Csurhes & Edwards, 1998).



Mimosa invisa (Fabaceae)

giant sensitive plant, aka *Mimosa diplotricha*
Brazil

Shrub. "An erect, climbing, ascending or prostrate biennial or perennial shrub that often forms a dense thicket, the root system strong, often woody at the decumbent base; stems conspicuously angular throughout the length, up to 2 m tall with many randomly scattered recurved spines or thorns 3 to 6 mm long; leaves bipinnate, 10-20 cm long, moderately sensitive to the touch; pinnae four to nine pairs; leaflets 12-30 pairs, sessile, opposite, lanceolate, acute, 6-12 mm long, 1.5 mm wide; inflorescence a head, one to three in the axils of leaves, on stalks 1 cm long, hairy, about 12 mm in diameter; corolla united at least at the base (gamopetalous)" (Holm et al., 1977 cited in PIER, 2007).



Morella cerifera (Myricaceae)

wax myrtle
US, Mexico, West Indies, Central America

Tree. "Monoecious, large, evergreen shrub or small tree, clumping, irregular, rounded, densely foliated and medium-textured. Reaches a height and spread of 35 ft, but is usually seen in the 15-20 ft range. Growth rate is rapid. Leaves simple, alternate, oblanceolate, to 4 in long, often undulate. The thin, olive green leaves are often coarsely serrate along apical margins and dotted with tiny rusty glands on both sides. Aromatic. multiple crooked trunks are covered with smooth, grayish-white bark. Young stems light green to gray, pubescent. Suckers frequently from trunk bases and roots. Plants dioecious; flowers inconspicuous, small axillary catkins appear in March. Fruit grayish-blue, 0.25 in wide, in dense clusters along the twigs in fall. The fruit are heavily coated with wax" (Dehgan, 1998 cited in PIER, 2006).



Morella faya (Myricaceae)

fire tree

Azores, Madeira Islands, Canary Islands

Tree. "Evergreen shrubs or small trees up to 8 m tall; branches with reddish peltate hairs. Leaves coriaceous, oblanceolate, 4-11 cm long, 1-2.5 cm wide, glabrous, glandular dots inconspicuous, margins somewhat revolute, remotely serrulate or serrate in upper 1/2, apex rounded to acute. Flowers in usually branched catkins borne among leaves of the current year's growth. Fruit drupaceous, dark red or blackish when mature, slightly fleshy" (Wagner et al., 1999).



Mucuna pruriens (Fabaceae)

cowhage, velvet bean

India

Trifoliate Vine. "Mucuna pruriens is an annual (or sometimes short-lived perennial), leguminous vine capable of growing to 6 m in length. The leaves are alternate with three large, rhomboid-ovate leaflets. The flowers are white to dark purple and hang in long racemes. M. pruriens produces clusters of pods that are curved (c. 4 to 8 cm long) and contain 2-6 seeds. The seeds vary in colour from black, white to mottled. The pods are covered with reddish-orange hairs that are readily dislodged and can cause intense irritation to the skin" (Michael, 1989, cited in Csurhes and Edwards, 1998 cited in PIER, 2006).



Odontonema tubiforme (Acanthaceae)

purple firespike

Mexico to Panama (PIER, 2007).

Shrub. "Shrub or suffrutescent herb, up to 2 m tall, glabrous to puberulent; leaves elliptic, up to 25 x 10 cm, occasionally much larger on fast-growing shoots, acuminate at apex, base decurrent to a short petiole, puberulent beneath along midrib; inflorescence up to 15 (-30) cm long, narrow, rarely branched base, peduncle up to 15-20 cm, with or without 2 reduced leaves part way up, rachis and cymules puberulent, cymules very short, fasciculiform, peduncle 1-3 (-5) mm long, flowers 3 or more, congested, subtended by tiny triangular mucronulate bracts and similar but smaller bracteoles" (Fosberg et al., 1993 cited in PIER, 2007).



Olea europaea var. cuspidata (Oleaceae)

African olive

Mediterranean (Starr et al., 2003)

"Trees to 8-10 m tall with a broad crown, sometimes shrubby; young branches grayish lepidote. Leaves narrowly elliptic to oblong or lanceolate, (1-)2-8 cm long, (0.3-)0.5-1.5(-2) cm wide, upper surface glabrous, lower surface moderately to densely grayish, green, or golden lepidote. Flowers in axillary, decussate panicles shorter than the leaves; corolla white, ca. 3.5-4 mm long. Drupes green when immature, becoming black or brownish at maturity, subglobose to narrowly ellipsoid, 6-19 mm long. This subspecies is distinguished by having lower leaf surface moderately to densely green or golden lepidote and thinly fleshy fruit ca. 6-7 mm long" (Wagner et al. 1999).



***Omalanthus populifolius* (Euphorbiaceae)**

bleeding heart tree

Australia (Starr et al., 2003)

Tree. Glabrous, monoecious shrub or small tree; leaves triangular-ovate, to 6 in. long; racemes 2-4.5 in. long; female flowers on long pedicels, male flowers on very short pedicels; fruit about 3/8 in. in diameter (Bailey & Bailey, 1976 cited in Starr et al., 2003).



***Parkinsonia aculeata* (Fabaceae)**

Jerusalem thorn

Southern US, the Caribbean, Mexico and northern South America (PIER, 2007)

Shrub. A branching spiny glabrous shrub or small tree of irregular habit, from 2 to 8 m high, often forming thickets and reproducing by seed. Stems slender, often drooping and of zig-zag form. Leaves shortly stalked, bipinnate, each consisting of 1 to 3 pairs of leaflets with a long flattened prominently ribbed central axis 20 to 40 cm long, 2 to 3 mm wide ending in a short spine and edged on both sides with numerous, oblong secondary leaflets 4 to 10 mm long which, shedding readily, leave a long thin photosynthesizing stalk, each leaf is subtended by a needle-sharp spine 5 to 15 mm long at the node (Parsons and Cuthbertson, 1992 cited in PIER, 2007).



***Passiflora tarminiana* (Passifloraceae)**

banana poka, aka *Passiflora mollissima*
South America (PIER, 2006)

Vine. "Leaves with blades 6-16 cm long, 7-20 cm wide, deeply 3-lobed, softly pubescent on lower or both surfaces, petioles with 4-6 scattered, minute, subsessile 2 nectaries, stipules obliquely ovate, ca. 6 mm long, apex setaceous, deciduous. Flowers pendent, salverform, 6-9 cm in diameter, peduncles solitary, 3.8-10 cm long, bracts ovate, coherent at base, forming an ampliate tube over base of hypanthium; hypanthium green, tubular, 5-7 cm long; sepals and petals pink, lanceolate to oblong, 4-5 cm long; corona purple or white, tuberculate to dentate. Fruit yellow at maturity" (Wagner et al. 1999).



***Passiflora quadrangularis* (Passifloraceae)**

giant granadilla
Tropical America (PIER, 2006)

Vine. "Lianas; stems 4-angled. Leaves with blades ovate to broadly elliptic-ovate, 7.8-13 cm long, 6-10.2 cm wide, glabrous, margins entire, base shallowly cordate, petioles with 4-6 usually paired, globose nectaries 1-2 mm in diameter, stipules broadly ovate, 18-35 mm long. Flowers campanulate, 7-10 cm in diameter; hypanthium 0.6-0.9 cm long; sepals and petals white or white tinged pink or purple; corona banded with purple, filamentous, wavy, ca. 3 cm long. Berries green at maturity, oblong, 20-30 cm long, 10-20 cm wide, aril white or grayish" (Wagner et al., 1999).



***Passiflora vitifolia* (Passifloraceae)**

grape-leaved passion flower, crimson passion flower
Central America to Peru

Vine. "Lianas. Leaves with blades 6-18 cm long, 6-15 cm wide, deeply 3-lobed, divided ca. 3/4 their length, the lobes lanceolate, lower surface pubescent, margins closely dentate to crenate, petioles 1.8-6.5 cm long, with 2 saucer-shaped nectaries at base, stipules linear-lanceolate, often deciduous. Flowers solitary, 10-18 cm in diameter; sepals and petals bright red; corona red to bright yellow, with white spots or streaks, in 2 series, inner one tubular, outer one filamentous, 5-10 mm long. Berries green with white speckles, ovoid, 4-7 cm long, 3-4 cm diameter" (Wagner et al., 1999).



***Paulownia tomentosa* (Scrophulariaceae)**

empress or princess tree, foxglove tree
Eastern Asia

Tree. "Gray-barked tree up to 15 m high; leaves entire or slightly lobed, 1.5-4 (on sprouts "5) dm broad; calyx 1-1.5 cm long, rusty-pubescent, with obtuse lobes; corolla about 5 cm long, violet, with yellow stripes within, glandular on the outside; capsule 3-4 cm long" (Fernald, 1950 cited in PIER, 2006).



Pennisetum setaceum (Poaceae)

fountain grass

Africa (PIER, 2006)

Grass. "Sparsely branching, tufted perennial [grass] 0.2-1 m high with feathery (bristly), spike-like inflorescences, the bristles long and detaching with the spikelets. Leaves: Up to 40 mm long x 3 mm wide, not rigid or ending in sharp points. Inflorescence: Cylindrical, 100-250 mm long or more, usually purple or rose-colored, bristles about 20 mm long" (Henderson, 1995 cited in 2006).



Pereskia aculeata (Cactaceae)

barbados gooseberry

West Indies, South America (PIER, 2006).

Vine. Shrub with long branches clambering or high-climbing; spines on young stems solitary or 2 or 3, slender and straight, on older stems recurved, paired. Leaves with petioles 3-7 mm long; blades lanceolate to oblong or ovate, 5-7 x 2-4 cm, base cuneate to rounded, apex short-acuminate, fleshy, smooth. Inflorescences panicles. Flowers with perianth white, pale yellow, or aging to pink. Fruits globose, 2.5-4.5 cm in diameter, smooth or with green leafy protuberances, light yellow to orange" (Howard, 1989 cited in PIER, 2006).



Pereskia bleo (Cactaceae)

bleo

Shrub.



Pereskia grandifolia (Cactaceae)

rose cactus

Shrub.



***Pereskia grandifolia* var. *grandifolia* (Cactaceae)**

rose cactus

Shrub.



***Pereskia lychniflora* (Cactaceae)**

Tree.



***Philadelphus karwinskianus* (Hydrangeaceae)**

philadelphus
Mexico

Vine. "Evergreen, somewhat scandent shrub, to 12 ft.; leaves ovate, to 3 in. long, 5-nerved, sparsely hairy, flowers about 1 in. across, in 5-30-flowered panicles, calyx, hairy" (Bailey & Bailey, 1976 cited in PIER, 2006).



***Phormium tenax* (Agavaceae)**

NZ hemp/flax
New Zealand, Norfolk Island (PIER, 2006).

Large herb. "Plants to 5-6 m tall. Leaves bright orange toward base, stiff, erect, at least in lower part, 100-300 cm long, 5-12 cm wide, margins entire, apex usually splitting. Inflorescences 4-5 m long, peduncles dark brown, 2-3 cm in diameter, glabrous; tepals dull red, 2.5-5 cm long. Capsules dark brown with age, erect, 3-angled, 5-10 cm long, usually falcate, abruptly constricted at apex, not twisted. Seeds elliptic, 9-10 mm long, somewhat twisted" (Wagner et al., 1999).



***Phytolacca dioica* (Phytolaccaceae)**

ombu

Tropical South America (Staples & Herbst, 2005).

Tree. Evergreen tree up to 18 m tall, dioecious; trunk thick, base developing irregular swellings, crown usually broader than high. Leaf petiole 4 - 7.5 cm long, blades elliptic to ovate, to 12.5 x 6.5 cm, +/- fleshy, apex mucronate. Inflorescence a raceme to ~15 cm long. Flowers unisexual, greenish white; stamens 20-25 in two whorls; sterile stamens ~10, ovary with 8-12 carpels, weakly fused. Fruit a segmented berry, ~75 mm diameter (Staples & Herbst, 2005).



***Piper aduncum* (Piperaceae)**

spiked pepper

West Indies and tropical America (PIER, 2007).

Tree Shrub. "Small tree to 7 m tall, with short silt roots and soft, brittle wood; foliage and twigs aromatic. Branches erect, but with drooping twigs and swollen, purplish nodes. Leaves alternate, distichous, elliptic, 12-22 cm long, shortly petiolate; lamina scabrid above, with sunken nerves, softly hairy beneath. Inflorescence a leaf-opposed, curved spike on a 12-17 cm peduncle, white to pale yellow, turning green with maturity. Flowers crowded in regular transverse ranks. Perianth absent; usually 4 stamens. Fruit a 1-seeded berry, blackish when ripe. Seeds brown to black, 0.7 -1.25 mm long, compressed, with a reticulate surface" (Waterhouse and Mitchell, 1998 in PIER, 2007).



***Piper auritum* (Piperaceae)**

false 'awa

Shrub



***Pittosporum undulatum* (Pittosporaceae)**

victorian box, Australian cheesewood

Australia

Tree. "A slender-branched shrub or tree, rarely becoming 16 feet or more high (although it may be 40 feet in its native country), with smooth, gray bark. Leaves alternate, often crowded at ends of slender, light brown branches, 3.5 to 5 inches long, lanceolate, pointed at both ends, shiny, with prominently wavy margins. Flowers almost white, few, fragrant, borne on the youngest branches in terminal clusters about 1 inch long; petals 5, abruptly bent downward at end. Fruit globe-shaped, compressed, usually 5/8 inch long, leathery, about 25-seeded. Seeds angular, 1/8 inch long and 1/32 inch thick, dark brown, smooth" (Haselwood, 1966 cited in PIER, 2007).



Pittosporum viridiflorum (Pittosporaceae)

cape pittosporum
South Africa (PIER, 2006)

Tree. "Small trees 3-6 m tall, young parts and inflorescences sparsely puberulent; branches glabrous. Leaves leathery, 6-15 cm long, 2.2-4 cm wide, glabrous, margins minutely revolute, apex bluntly acuminate to rounded, base attenuate, petioles 0.6-1.5 cm long. Flowers perfect, numerous in terminal, branched, corymbose inflorescences, peduncles 0-8 mm long, pedicels slender, 5-7 mm long; sepals elliptic, ca. 1.5 mm long, margins scarious; petals yellowish green, 5-6 mm long, margins slightly revolute and erose; ovary 2-carpellate. Capsules depressed-subglobose, slightly compressed, 4-5 mm long, the valves with thin exocarp, the surface minutely rugulose. Seeds 4-6, reddish black, subreniform, somewhat compressed, ca. 3.5-4 mm long" (Wagner et al., 1999).



Platymiscium stipulare (Fabaceae)

South America (Staples & Herbst, 2005)

Tree. "Up to 21 m tall, glabrous; branches ascending. Leaves odd-pinnately compound; leaf petiole 4 - 7.5 cm long; leaflets usually 5, ovate or elliptic, 7.5 - 12.5 cm x 3.5 - 6 cm, leathery, glossy, veins prominent. Raceme 1 per leaf axil, flowers paired, pea-type; pedicels to 5 mm long. Flowers ~1.3 cm long, fragrant; corolla yellow, standard petal +/- circular; stamen filaments and pistils glabrous. Fruit ellipsoid-oblong, 8.25 - 10 cm long, 3 - 3.5 cm wide, brownish tan, thickly papery. Seed ellipsoid-oblong, 2 - 2.5 cm x 1.3 - 1.7 cm, greenish" (Staples & Herbst, 2005).



***Prosopis juliflora* (Fabaceae)**

long thorn kiawe

Mexico, Central America & Northern South America (PIER, 2007)

Shrub tree. "3-10 m tall; branches slightly zigzag, with stout stipular spines 1-3 (-5) cm long. Leaves with 1-2 (-4) pairs of pinnae, each with (6-) 12-25 (-29) pairs of leaflets, these oblong, 6-16 (-23) mm long, 1.5-3.2 (-5.5) mm wide, glabrous, apex rounded, obtuse, or subacute, base rounded. Flowers numerous, in cylindrical spikes 5-10 (-15) cm long; corolla pale yellow, 4-5 mm long; stamens 5-8 mm long. Pods pale yellowish brown, cylindrical or slightly irregularly curved, usually 8-30 cm long, 0.8-1.7 cm in diameter, mesocarp fleshy, only flattened in younger stages, stipe 0.7-2 cm long. Seeds obovoid, 5-6.5 mm long, 4-5 mm wide" (Wagner et al., 1999).



***Pseudogynoxys chenopodioides* (Asteraceae)**

Mexican flame vine

Mexico, Central America & Northern South America (PIER, 2006)

Vine. "Small herbaceous to large suffrutescent vines, the stems multistriate, sparsely hispidulous to almost glabrous, up to 5 m and perhaps longer; leaves alternate, petiolate or nearly sessile, lanceolate to lanceolate-ovate, rarely subcordate, acute or acuminate, densely hispidulous to glabrous, serrate-dentate, the teeth sometimes glandular, the blade 3-12 cm long and 1-7 cm broad; inflorescence a single head to a multicapitate panicle; heads heterogamous, variable in size, 1-3 cm high (commonly 1.5 cm) and as broad; involucre uniseriate, subtended usually by several conspicuous bracteoles, mostly about 1 cm long; phyllaries numerous, linear, acuminate, densely hispidulous to glabrous, the mid-nerve thickened" (Nash & Williams, 1976 cited in PIER, 2006).



Pueraria montana var. lobata (Fabaceae)

tropical kudzu

Eastern or Southern Asia (PIER, 2006)

Trifoliate Vine. "Coarse, twining or creeping vine with thickened or tuberous roots. Stems up to 10 m long, somewhat woody, covered with long, yellow-brown hairs. Leaves alternate, trifoliate, with a rachis 8-20 cm long. Leaf margins wavy, leaf surfaces softly pubescent. Flowers in many-flowered axillary racemes 15-40 cm long. Calyx long-hairy, divided more than half way into five unequal lobes; corolla papilionaceous, violet with a yellow spot, and 14-20 mm long. Stamens ten, diadelphous. Fruit a densely brown-hairy, flat, oblong-linear pod 9-12 cm long, 8-12 seeded" (Whistler, 1983 cited in PIER, 2006). "A slow growing climbing legume with a thickened edible tuber. It has a thick stem which is hairy at the base. The leaves are hairy. The tuber is shaped like a cassava root" (GPPIS cited in PIER, 2006).



Pyracantha angustifolia (Rosaceae)

narrow-leaved firethorn

Southwestern China (PIER, 2007)

Shrub. "Up to 4 m tall; stems rigid, erect or sprawling, many-branched, forming a dense growth, young branches tomentose, thorns leafy. Leaves oblong to oblong-lanceolate, 1.5-5 cm long, 0.5-1.6 cm wide, upper surface pubescent when young, soon glabrate and dark green, lower surface grayish tomentose, margins entire or with a few small teeth near apex, apex obtuse and mucronulate, or emarginate, base cuneate-attenuate. Flowers in dense corymbs 2-4 cm in diameter, pubescent throughout; sepals broadly deltate, 0.8-1 mm long, margins minutely denticulate; petals 8-10 mm long. Fruit bright orange to brick-red, depressed-globose, 6-8 mm in diameter" (Wagner et al., 1999).



***Pyracantha crenatoserrata* (Rosaceae)**

firethorn

China (Staples & Herbst, 2005)

Shrub. Thorny, 2.75 - 3.5 m tall; young branches rusty-pubescent. Leaf blades +/- oblong-obovate, smaller than 1.3 - 2.5 cm long, upper side appressed-hairy, underside hairy on veins (at least when young), margins always distinctly scalloped, apex obtuse and notched. Inflorescence often terminal, 15-30-flowered, shortly rough-hairy. Flowers 5 - 6 mm diameter, white. Fruit 5 mm diameter, orange, in compact clusters (Staples & Herbst, 2005).



***Pyracantha koidzumii* (Rosaceae)**

Koidzumi's firethorn

Taiwan (Staples & Herbst, 2005)

Shrub. Thorny, 2.75 - 3.5 m tall; young branches rusty-pubescent. Leaf blades +/- oblong-obovate, 1.3 - 2.5 cm long, upper side appressed-hairy, underside hairy on veins (at least when young), margins +/- entire (tiny or obscure serrations may be present) apex obtuse and notched. Inflorescence often terminal, 15-30-flowered, shortly rough-hairy. Flowers 5 - 6 mm diameter, white. Fruit 7.5 mm diameter, orange, in compact clusters (Staples & Herbst, 2005).



Rosa multiflora (Rosaceae)

multiflora rose
Asia (ISSG, 2005)

Shrub. "Grows to a height of 1.8 to 3 meters and occasionally 4.6 m. Stems (canes) are few to many, originating from the base, much branched, and erect and arching to more or less trailing or sprawling. Canes grow to 4 m long and are armed with stout recurved prickles. Leaves are alternate, pinnately compound, and 8 to 11 cm long with 5 to 11 (usually 7 or 9) leaflets 2.5 to 4 cm long. Flowers are 1.3 to 1.9 cm across and number 25 to 100 or more in long or pointed panicles. Fruits (hips) are globular to ovoid, 0.64 cm or less in diameter. Seeds are angular achenes" (Munger, 2002 cited in ISSG, 2005).



Saccharum spontaneum (Poaceae)

wild sugarcane
Old World Tropics (PIER, 2007)

Grass. "Perennial grass spreading by stout rhizomes. Culms erect, 2-4 m or more in height. Leaf sheath glabrous, with overlapping margins; ligule membranous, 3-4 mm long, with a rounded apex fringed with scattered hairs and a dense row of hairs 2-3 mm long behind it. Leaf blade mostly 50-90 x 5-15 cm. Inflorescence a plumose panicle 25-60 cm long with numerous racemes 3-15 cm long, rachis and pedicels hirsute, rachis falling off in units comprising a pair of spikelets and the rachis below them. Spikelets lanceolate, 3-4 mm long, bearded at the base, the hairs silky, 2-3 times as long as the spikelet, in unequally stalked pairs. Glumes equal, as long as spikelet, glabrous on the back. Upper lemma nearly as long as spikelet, membranous" (Whistler, 1995 cited in PIER, 2007).

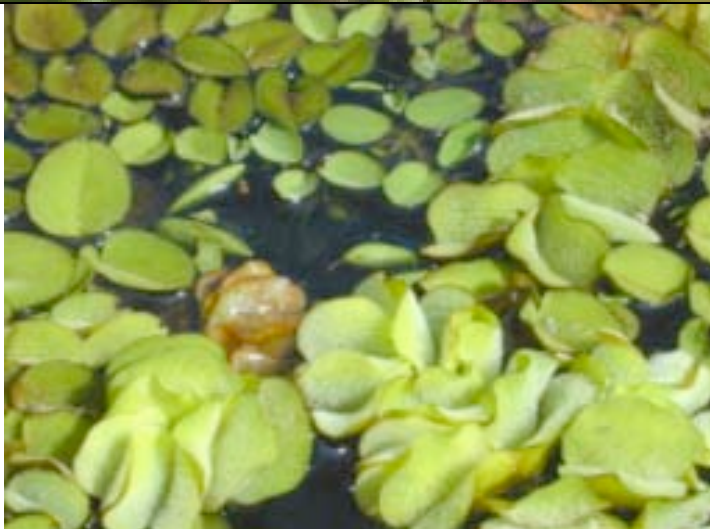


***Salsola tragus* (Chenopodiaceae)**

tumbleweed

Eurasia and Northern Africa (GRIN, cited in PIER, 2007)

Shrub. "Annual herbs; stems 3-10 dm long, intricately many-branched, forming a round, bushy clump, with age breaking off and becoming a tumbleweed, glabrous or sometimes sparsely hirsute. Leaves linear, terete when fresh, somewhat flattened when dry, 3-5 cm long, upper leaves usually only 0.5-0.8 cm long, apex spine-tipped. Calyx with enlarged membranous wings in fruit, 3-6 mm wide when well-developed, those of lowermost flowers often merely carinate. Seed black, shiny, 1.5-2 mm in diameter" (Wagner et al., 1999).



***Salvinia molesta* (Salviniaceae)**

kariba weed

South America (PIER, 2007)

Water plant. "Perennial, free-floating, aquatic fern, forming dense mats with plagiotropic shoots and tightly overlapping leaves. Leaves: Floating leaves of different sizes, elliptic, entire, folded, light or brownish-green, becoming somewhat darker near the entire margins, densely covered on upper surface by hydrophobic papillae bearing groups of 2 or 4 uniseriate hairs united at their distal ends; papillae to 3 mm long; submerged leaf greatly dissected, hanging into the water, functioning as a root. Sporocarps in long straight secund chains, hairy, about 1 mm in diameter, containing mostly empty sporangia" (Cronk and Fuller, 1995 in PIER, 2007).



***Schefflera insularum* (Araliaceae)**

Philippines (Bureau of Plant Industry, n.d.)

Tree. "This plant is a woody vine. The leaves are palmately compound, crowded, at the ends of the branches, and smooth, with 7 to 9 leaflets. The leaflets are of different sizes in the same leaf, large, oblong or oblong-elliptic, 10 to 24 centimeters in length, 3 to 8.5 centimeters wide, and upon 5- to 7- centimeters-long stalks; the apex is narrowly pointed and the base, pointed; the margin is toothed, particularly half-way to the tip. The flowers are pale white, umbellately clustered upon short stalks, 1 centimeter long, and borne on terminal or subterminal, compound inflorescences 15 to 30 centimeters long. The fruit is orange, ovoid, prominently ridged when dry, and 7 to 9 millimeters in diameter" (Bureau of Plant Industry, n.d.).



***Schizachyrium condensatum* (Poaceae)**

bush beardgrass

Tropical and Subtropical America (PIER, 2007)

Grass. "Perennial [grass]; culms tufted, erect, 9-15 dm tall, unbranched in lower part, repeatedly branching above into a compound inflorescence, internodes 2-3.5 mm in diameter, glabrous, broadly elliptic in cross section, filled with white or pinkish pith, nodes inconspicuous, glabrous. Sheaths keeled, glabrous, rarely sparsely puberulent; ligule a firm membrane, 0.7-2 mm long, adnate to sheath margins; blades up to 40 cm long, 3-8 mm wide, glabrous, lower surface keeled, occasionally with a few hairs at throat. Inflorescences loose, composed of numerous solitary racemes subtended by spathes, 20-40 cm long, 3-8 cm wide, branched in upper part, peduncles 2.5-6 cm long, with up to 8 spikelet pairs" (Wagner et al., 1999).



Semecarpus nigroviridis (Anacardiaceae)

marking nut tree

Tree



Senecio madagascariensis (Asteraceae)

fireweed

Madagascar & South Africa (PIER, 2008)

Woody Herb. An erect hairless annual or short-lived perennial herb 10 to 70 cm high, reproducing from the crown and by seed. Stems erect, slender, 1 to many arising from the crown, 10 to 70, usually 10 to 50 cm high, branching above. Leaves bright green; alternate, of variable size and shape, often narrow and rather fleshy, 2 to 8, usually 2 to 6 cm long, the broader leaf bases generally clasped around the stem; margins serrate, entire or lobed. Flowers bright yellow, consisting of 13 ligulate ray florets, oblong to obovate, 10 mm long, and numerous tubular disc florets grouped into heads 15 to 20 mm diameter, each subtended by an involucre of 20 or 21 bracts; heads arranged in clusters at the ends of branches" (Parsons and Cuthbertson, 1992 in PIER, 2008).



***Setaria sphacelata* (Poaceae)**

African bristlegrass

Africa and Yemen (GRIN in PIER, 2007)

Grass. "Perennial; caespitose. Rhizomes short, or elongated. Butt sheaths withering, or persistent and investing base of culm; with fibrous dead sheaths. Basal innovations subterete, or flabellate. Culms 20-300 cm long. Culm-nodes glabrous. Ligule a fringe of hairs. Leaf-blades flat, or convolute; 10-50 cm long; 2-17 mm wide. Leaf-blade apex acuminate. Inflorescence a panicle. Panicle spiciform; linear; 3-50 cm long. Primary panicle branches accrescent to a central axis; with evident branchlets on axis. Panicle axis pubescent. Spikelets subtended by an involucre. Fertile spikelets sessile; 1-4 in the cluster. Involucre composed of bristles; 1.5-12 mm long. Involucral bristles persistent; 6-15 in principal whorl; flexible; antrorsely scaberulous; glabrous" (World Grass Species in PIER, 2007).



***Stachytarpheta mutabilis* (Verbenaceae)**

changeable vervain

Neotropics (Wagner et al., 1999)

Woody Herb. "Perennial herbs or subshrubs 10-20 (-50) dm tall; stems stout, branched, densely tomentose or villous throughout. Leaves opposite, usually rather thick and chartaceous or somewhat leathery, ovate to elliptic-oblong, sometimes lanceolate, 5-12 cm long, 2.5-6 cm wide, upper surface often rugose and sparsely villous to scaberulous, lower surface densely tomentose or villous, margins crenate or serrate, the teeth angled forward, apex acute to acuminate, base broadly cuneate to occasionally subcordate, petioles 1-2.3 cm long. Spikes stout, erect, 10-60 cm long, densely strigose or hirtellous, the furrows shallow, bracts lanceolate or oblong-lanceolate, 8-12 mm long" (Wagner et al., 1999).



Tamarix aphylla (Tamaricaceae)

athel tamarisk

Africa and Asia (GRIN in PIER, 2008)

Shrub. "Tree up to 10 (-15) m high. Smaller branchlets apparently articulated, enclosed by the abruptly truncate and minutely apiculate sheathing leaf-bases 1.5-4 mm long, 1 mm in diameter, usually with a dusty grey glandular efflorescence; larger branchlets with persistent scale-like leaves. Racemes crowded near end of current year's growth, usually 4-6 cm long, 3-4 mm in diameter; bracts sheathing, concave, less than 1 mm long, acute. Flowers subsessile, about 3 mm long, 1.5 mm wide. Sepals 5, suborbicular, 1 mm long, greenish or pinkish. Petals 5, oblong, 2 mm long, 1 mm wide, obtuse, white. Disk irregularly lobed between insertion of filaments, dull red. Stamens 5; filaments equaling or exceeding petals, slender white; anthers shortly apiculate" (Hunt, 1966 in PIER, 2008).



Tamarix parviflora (Tamaricaceae)

tamarisk

Southeastern Europe (Christmas, 2006)

Shrub. "Deep-rooted, wide spreading deciduous shrub or small tree to 15 ft (4.6 m) tall with a similar spread. It has purplish bark and graceful arching greenish purple shoots with scale-like bright green leaves. The foliage looks like it should be evergreen (it isn't), and is similar to that of juniper. The little leaves are 1/8 in (0.3 cm) long with tiny glands that secrete salt, hence the name sometimes seen, "salt cedar." The tiny flowers are rose-pink with four petals, borne in dense clusters about 2 in (5.1 cm) long on branches of the previous year's growth. They appear in early summer and may persist for several weeks" (Christman, 2006).



Tetrastigma lanceolarium (Vitaceae)

Vine.



Tetrastigma pubinerve (Vitaceae)

China (Staples & Herbst, 2005)

Vine. "Lianas, woody. Branchlets terete, with longitudinal ridges, transversely corrugated when dry, pubescent, then glabrescent; tendrils unbranched. Leaves pedately 5-foliolate; petiole 4-10.5 (-15) cm; central petiolule 1-2.5 cm, petiolules of lateral leaflet complex 1-2.5 cm, lateral petiolules 0.5-2 cm, transversely corrugated when dry, sparsely pubescent, then glabrescent; leaflets only pubescent abaxially on veins, then glabrescent, lateral veins 7-9 pairs, veinlets raised abaxially; central leaflet elliptic or elliptic-lanceolate, 12-25 x 4-7 cm, base broadly cuneate, margin 6-8-toothed on each side, apex acute or acuminate; lateral leaflets ovate-lanceolate or ovate-elliptic, 6-20 x 2.5-7 cm, base cuneate or subrounded, margin 4-7-toothed on each side, apex acute, acuminate, or obtuse" (Flora of China online in PIER, 2007).



Tetrastigma vainierianum (Vitaceae)

lizard plant

Vietnam or Laos (Staples & Herbst, 2005)

Vine. "Vigorous vine; young stems rusty hairy. Leaves compound; leaflets usually 5 (rarely 3 or 4), broadly obovate, 6-10 inches long, shiny green, ±fleshy, underside rusty brown-hairy, margins wavy to broadly toothed; tendrils long, not forked. Inflorescence axillary, crowded, much-branched clusters. Male flowers stamens 5, pistil reduced; female flowers (not seen in Hawai'i) sterile stamens 4; ovary conical, stigma 4-lobed, nearly sessile. Fruit not seen in Hawai'i" (Staples & Herbst, 2005).



Tetrazygia bicolor (Melastomataceae)

Florida clover ash

Florida & Caribbean (PIER, 2007)

Shrub. "A shrub or small tree to about 6 m tall, with scaly bark, the young twigs scurfy. Leaves opposite; petioles slender, scurfy, 2-4 cm long; blades lanceolate to oblong-lanceolate, 8-20 cm long, strongly 3-ribbed and with many widely spreading lateral veins, entire, acuminate at the apex, mostly obtuse at the base, green above, whitish-scurfy beneath. Panicles peduncled, 1-2 dm long, several- to many-flowered; pedicels slender, 5-10 mm long. Calyx limb subtruncate. Petals 4, white, 7-8 mm long. Berry subglobose, purple or black, 8-10 mm in diameter" (Correll and Correll, 1982 in PIER, 2007).



***Tibouchina granulosa* (Melastomataceae)**

glory tree

South America (Starr et al., 2003)

Tree. Grows up to 3 m tall "with 4-winged branchlets; leathery, elliptic to ovate-lanceolate leaves; uniformly purple flowers; woolly filaments; and floral bracts and calyx lobes that have broad, glabrous marginal bands" (Staples & Herbst, 2005).



***Tibouchina herbacea* (Melastomataceae)**

cane tibouchina

South America (Wagner et al., 1999)

Large herb. Herbs or subshrubs up to 1 m tall; young branches quadrate, densely covered with spreading, simple, usually gland-tipped hairs. Leaves ovate to oblong-ovate, 3-7.5 cm long, 1.3-3.5 cm wide, 5 (-7)-nerved with lateral primary veins confluent for 2-4 mm at base of blade, both surfaces moderately strigose, the hairs on upper surface adnate part of their length to the leaf surface, margins serrulate, apex acute, base rounded, petioles 3-10 mm long. Inflorescences 10-20 cm long (incl. peduncle), bracts and bracteoles elliptic to broadly ovate, 1-3.5 mm long, 1-2 mm wide at base, tardily deciduous, ciliolate; hypanthium covered with spreading, simple, gland-tipped hairs" (Wagner et al., 1999)

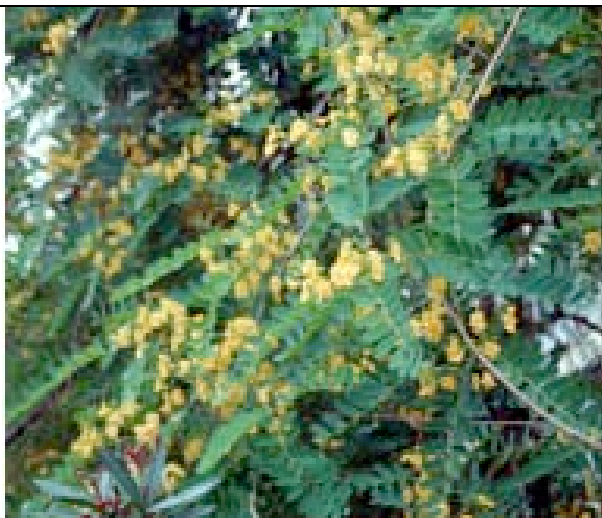


Tibouchina longifolia (Melastomataceae)

longleaf glorytree

Neotropics (Starr et al., 2003)

Shrub. "Laxly branched subshrubs 0.5-2 m tall; young branches subquadrate, densely covered with appressed to antrorsely spreading, smooth hairs. Leaves narrowly elliptic to lanceolate, 3.5-11.5 cm long, 1-3 cm wide, (3-)5(-7)-nerved with the lateral primary veins confluent for 1-5 mm at base of blade, both surfaces strigose, the hairs on upper surface adnate part of their length to the leaf surface, margins subentire, apex acute to acuminate, base acute, petioles 3-13 mm long. Inflorescences 5-17 cm long (incl. peduncle), bracts and bracteoles linear-lanceolate, 1-5 mm long, 0.5-2 mm wide, bracteoles not enclosing nor concealing floral buds, deciduous; hypanthium strigose; calyx lobes spreading or recurved, linear-subulate, 2.5-3.5 mm long" (Wagner et al. 1999).



Tipuana tipu (Fabaceae)

rosewood, pride of Bolivia

South America (Le Houerou, n.d.)

Tree. "Small to large thornless tree (4-40 m) depending on the ecological conditions, with a bole reaching up to 150 cm dbh. Leaves are opposite and imparipinnate, with a 12-20 cm rachis bearing 7-10 pairs of opposite or sub-opposite leaflets oblong, 3-5 cm long x 12-20 mm wide, rounded at both ends, with an emarginated tip. There are 10-15 nerves, hardly conspicuous and finely reticulate underneath the leaf blades, which also bear minute whitish scales and short apressed hair. The upper side of the leaf is glabrous. Petiole is enlarged at the basis and 15-30 mm long until the first leaflets. The inflorescence is set in axillary racemes 10-15 cm long bearing flowers on a ca 10 mm long peduncle. The corolla is golden yellow, very ornamental, 20 mm in diameter" (Le Houerou, n.d.).



***Topobea maurofernandeziana* (Melastomataceae)**

Shrub, tree, or vine.



***Topobea parasitica* (Melastomataceae)**

Shrub or vine.



Trichostigma peruvianum (Phytolaccaceae)

Shrub.



Ulex europaeus (Fabaceae)

gorse

Western Europe (PIER, 2007)

Shrub. "Many-branched shrubs to 6-20 dm tall; young branches usually terminating in a spine, younger parts somewhat glaucous and gray to reddish brown hirsute to tomentose. Phyllodes 4-14 mm long, usually spine-tipped. Calyx yellow, 12-16 (-20) mm long, densely villous, persistent; corolla yellow, 15-20 mm long. Pods 11-20 mm long, 6-8 mm wide, slightly compressed, densely villous. Seeds 1-4, brownish green, reniform" (Wagner et al., 1999).



***Urtica urens* (Urticaceae)**

dwarf nettle

Herb. "Annual, with taproot, 1-8 dm. Stems simple or branched, erect. Leaf blades elliptic to broadly elliptic, widest near middle, $1.8-9 \times 1.2-4.5$ cm, base cuneate, margins coarsely serrate, serrations often with lateral lobes, apex acute; cystoliths rounded. Inflorescences spikelike or paniculate. Flowers unisexual, staminate and pistillate in same inflorescence, subsessile to short-pedunculate. Pistillate flowers: outer tepals ovate, 0.5-0.7 mm, inner tepals broadly ovate, $0.6-0.9 \times 1.2-1.4$ mm. Achenes ovoid, $1.5-1.8 \times 1.1-1.3$ mm" (Flora of North America, n.d.).



***Vernonia elliptica* (Asteraceae)**

climbing vernonia

India, Myanmar, & Thailand (Staples & Herbst, 2005)

Vine. "Straggling, half-climbing shrub with alternate, simple, elliptic, 2.5 - 5 cm long leaves, silvery-hairy on the undersides; and axillary clusters of sweet-smelling discoid flower heads, each head small and few-flowered, mauve in bud and white after opening, with numerous white bristles as long as the disc flowers" (Staples & Herbst, 2005).



Vigna speciosa (Fabaceae)

snail vine, snail moanaloa

Central America to Northern South America (Staples & Herbst, 2005)

Trifoliate vine. "A vigorous climber up to 6 m long, its leaves have 3 ovate leaflets 5 - 8.25 cm long, the lateral ones unequal-sided. The inflorescences are in axillary racemes that bear 2-6 lavender-pink flowers, each 3 - 3.75 cm across and peculiar in that the apex of the keel is coiled nearly in a full circle and the bases of the petals have more or less acute lobes. The pods are almost linear, 7.5 - 17.5 cm long, flattened, the 2 valves twisting when the pod opens and releasing numerous dark brown, compressed kidney-shaped seeds about 5 mm long.



Vitex agnus-castus (Verbenaceae)

chaste tree

Southern Europe (Staples & Herbst, 2005)

Tree. "A shrub or treelet to 5 m tall, it has palmately compound leaves with 5-9 stalked, narrowly elliptic leaflets to 12.5 cm long with entire margins; densely crowded, spikelike inflorescences to 2.5 cm long with pale lilac-blue, 6 mm long flowers; and globose, brown, dry fruit 2.5 mm in diameter, half-enclosed in the persistent calyx" (Staples & Herbst, 2005).



Washingtonia robusta (Arecaceae)

Mexican washingtonia

Mexico (McCarrach, 1960 in PIER, 2006)

Palm. "Flowers and fruits very similar to *Washingtonia filifera*, but differing in the following particulars: Trunk: Brownish instead of grayish. Rings more conspicuous, less vertical chinks. Grows to greater height—to 80 ft. More slender, except at expanded base. If shag is removed, adhering leafbases form criss-cross pattern, similar to the palmettos. Petiole: Reddish-brown, instead of green; conspicuously brown at base. Usually more toothed than *Washingtonia filifera*, in young trees; less toothed in mature trees. Not as long, to 4 ft. Leaf: Bright-green, and usually not as wide as in *Washington filifera*. Many long threads only in youth, disappearing with age. Segments: Bright-green, instead of gray-green" (McCurach, 1960 in PIER, 2006).

Note: In the image to the left, only the middle individual is *W. robusta*. The others are *W. filifera*.

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