

## FABACEAE

by

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Trees, shrubs or herbs, the shrubs and herbs often twining. Leaves alternate or rarely opposite or whorled, mostly pinnate or pinnately, 3-foliate or 1-foliate or simple or palmate. Stipules present but sometimes very small or obsolete; stipellae sometimes present. Inflorescence consisting of terminal or axillary racemes or panicles, less often heads, spikes or clusters or flowers solitary. Flowers mostly hermaphrodite, zygomorphic. Receptacle campanulate, tubular or nearly wanting. Sepals usually 5, or 4, connate. Petals 5, imbricate, unequal, the adaxial exterior forming the standard (vexillum), the lateral pair forming the wings (alae) adhering to the keel or free, the abaxial inferior pair enclosing the stamens and style and often cohering by their lower margins to form the keel (carina). Stamens 10 or 9, monadelphous or diadelphous and then the vexillar stamen free, rarely all free; anthers uniform or unequal, 2-celled, dorsifixed or basifixed, opening by longitudinal dehiscence. Ovary superior, uni-locular; style simple; stigma small or capitate. Ovules 1 to numerous, anatropous. Fruit various, often a 2-valved pod or lomentum, rarely drupaceous. Seeds with a large embryo; endosperm few or wanting. Cotyledons foliaceous or thick-carnous.

About 12000 species in 480 genera, in all parts of the world.

### Key to the genera:

|   |                                       |
|---|---------------------------------------|
| Flowers yellow-white; stipules 1.5—2 mm long; pod articulate . . . . .  | <i>Galactia nummularia</i> (p. 96)    |
| 5. Leaves 3-foliolate . . . . .   | 6                                     |
| Leaves pinnate with 2 or more pairs of leaflets . . . . .   | 18                                    |
| 6. Tree; trunk and branches often with spines; flowers large . . . . .  | <i>Erythrina</i> (p. 97)              |
| Herbs, shrubs or climbers . . . . .   | 7                                     |
| 7. Erect, straggling or creeping herbs or shrubs, not normally twining or climbing; fruits articulate or 2-valved . . . . .   | 8                                     |
| Herbaceous twiners or climbing shrubs; fruits 2-valved . . . . .  | 13                                    |
| 8. Pods articulate . . . . .  | 9                                     |
| Pods 2-valved . . . . .   | 10                                    |
| 9. Flowers small, solitary in the leaf-axils, yellow, the standard streaked with red or purple; stipules united to the petiole, stipels wanting; leaflets sub-digitate; pod 1- or 2-articulate, usually only the terminal article fertile . . . . . | <i>Stylosanthes</i> (p. 111)          |
| Flowers in terminal or axillary inflorescences, white, blueish to red or purple, not yellow; stipules not united to the petiole, stipels present; pod 2- or more articulate . . . . .   | <i>Desmodium</i> (p. 114)             |
| 10. Leaves glandular-dotted beneath . . . . .   | <i>Cajanus</i> (p. 85)                |
| Leaves not glandular-dotted . . . . .   | 11                                    |
| 11. Stipels absent; pods inflated . . . . .   | <i>Crotalaria</i> (p. 65)             |
| Stipels present; pods flat and compressed or linear . . . . .   | 12                                    |
| 12. Keel-petals twisted; calyx 5-toothed; pod linear . . . . .  | <i>Phaseolus lathyroides</i> (p. 100) |
| Keel-petals not twisted; calyx 4-lobed . . . . .  | <i>Galactia</i> (p. 92)               |
| 13. Leaves with scattered resinous dots beneath; stipels absent or small . . . . .  | <i>Rhynchosia</i> (p. 87)             |
| Leaves without resinous dots beneath; stipels present . . . . .   | 14                                    |
| 14. Standard much larger than the other petals; bracteoles conspicuous . . . . .  | <i>Centrosema</i> (p. 103)            |
| Standard shorter than or not much larger than the other petals; bracteoles inconspicuous . . . . .  | 15                                    |
| 15. Calyx unequally 2-lipped, the upper with 2 lobes united, the lower with 2 small teeth; pod with a sutural and an additional rib on each side near the upper margin . . . . .  | <i>Canavalia</i> (p. 90)              |
| Calyx 4—5-toothed . . . . .   | 16                                    |
| 16. Stamens all united or vexillar stamen fused above and free below . . . . .  | <i>Teramnus</i> (p. 104)              |
| Vexillar stamen free; pod septate or more or less filled between the seeds . . . . .  | 17                                    |
| 17. Style glabrous; stigma terminal . . . . .   | <i>Galactia</i> (p. 92)               |
| Style bearded on one side or around the lateral stigma; keel-petals spirally twisted . . . . .  | <i>Phaseolus</i> (p. 99)              |
| 18. Herbaceous or slender woody climbers . . . . .  | 19                                    |
| Herbs, erect or robust climbing shrubs or trees . . . . .   | 20                                    |

19. Leaves imparipinnate with 2—4 pairs of lateral leaflets; flowers solitary, axillary, blue or white . . . . . *Clitoria* (p. 102)  
 Leaves paripinnate with 10—20 pairs of leaflets; the terminal leaflet replaced by a bristle; flowers red or white in up to 8 cm long, axillary racemes . . . . . *Abrus* (p. 105)
20. Trees or shrubs . . . . . 21  
 Herbs or undershrubs . . . . . 27
21. Filaments free, 10; plant white-grey or silky tomentose; leaflets 11—17, opposite or nearly so; flowers yellow, in up to 40 cm long racemes; pod 5—15 cm long, strongly constricted between the seeds *Sophora* (p. 64)  
 Filaments free; not this combination of the other characters . . . . . 22
22. Leaves paripinnate, 15—35 cm long with 12—22 pairs of leaflets . . . . . *Sesbania grandiflora* (p. 85)  
 Leaves imparipinnate . . . . . 23
23. Flowers yellow; leaflets (4—)13—17, alternate to subopposite, 2—4.5 × 1—2 cm; pod ovoid to subglobose, 2—3 cm . . . . . *Geoffroea* (p. 74)  
 Not this combination of characters . . . . . 24
24. Flowers pink to purplish; leaflets 7—13, opposite, 5—13 × 2.5—4 cm; pod drupaceous, 1-seeded . . . . . *Andira* (p. 72)  
 Not this combination of characters . . . . . 25
25. Standard pink with white or yellow spot, the wings purple; leaflets 9—17, opposite, 3—6 × 1.5—4 cm; pod 10—12 cm long *Gliricidia* (p. 69)  
 Not this combination of characters . . . . . 26
26. Flowers white, tinged with red or purple; leaflets 5—15, opposite, up to 12 × 6 cm; pod 6—9 cm long with 4 wings up to 2.5 cm wide . . . . . *Piscidia* (p. 70)  
 Flowers mauve; leaflets 7—11, opposite, 4—9 × 1.5—4.5 cm; pod 6—8 cm long, not winged, 1—2-seeded . . . . . *Lonchocarpus* (p. 71)
27. Leaves paripinnate . . . . . 28  
 Leaves imparipinnate . . . . . 31
28. Leaflets 4; stipules fused to the petiole . . . . . *Arachis* (p. 110)  
 Leaflets more than 4; stipules free . . . . . 29
29. Leaflets in 4—5 pairs . . . . . *Aeschynomene* (p. 107)  
 Leaflets in 10 or more pairs . . . . . 30
30. Pods articulate; calyx deeply 2-lipped . . . . . *Aeschynomene* (p. 107)  
 Pods long-linear, 2-valved; calyx 4-toothed . . . . . *Sesbania* (p. 82)
31. Pods articulate, breaking up at maturity . . . . . *Aeschynomene* (p. 107)  
 Pods 2-valved . . . . . 32
32. Leaflets black glandular-dotted beneath . . . . . *Dalea* (p. 81)  
 Leaflets without black glandular dots . . . . . 33
33. Hairs attached by the middle . . . . . *Indigofera* (p. 78)  
 Hairs simple . . . . . 34
34. Pod not septate between the seeds; racemes opposite the leaves . . . . . *Tephrosia* (p. 75)  
 Pod grooved between the seeds; racemes axillary, few-flowered . . . . . *Cracca* (p. 77)

**Sophora** Linnaeus, Spec. Plant. 373. 1753; Gen. Plant. ed. 5. 175. 1754

Trees or shrubs. Leaves imparipinnate. Stipules wanting; stipellae setaceous or often absent. Inflorescence consisting of terminal or axillary, few- to many-flowered racemes; pedicels often jointed or swollen near the top; bracts often rather large; bracteoles usually apparently wanting. Hypanthium often well-developed. Calyx campanulate to tubular with shallow to prominent and acute lobes; the upper 2 fused. Petals up to 5 cm long; standard  $\pm$  reflexed, broadly obovate or orbicular and narrowed into a short claw, usually shorter than the keel; wings obliquely oblong, keel-petals oblong, nearly straight, usually overlapping or jointed on the lower side. Stamens 10; filaments free or connate at the base into a ring; anthers dorsifixed, versatile. Ovary short-stipitate; style incurved; stigma small, terminal. Ovules numerous. Pod stipitate, terete or slightly compressed, fleshy, coriaceous or woody, strongly constricted between the seeds, indehiscent. Seeds obovoid or globose, usually with a small hilum.

About 50 species, natives of warm and tropical regions.

**Sophora tomentosa** L.

LINNAEUS, Spec. Plant. 373. 1753; GRISEBACH, Fl. Br. W. Ind. Isl. 203. 1860; DUSS, Fl. phan. Ant. franç. 226. 1897; URBAN, Symb. Ant. 4: 280. 1905; BOLDINGH, Fl. Ned. W. Ind. Eil. 215. 1913; Fl. D.W. Ind. Isl. 2: 39. 1914; FAWCETT & RENDLE, Fl. Jamaica 4(2): 86, fig. 28. 1920; URBAN, Symb. Ant. 8: 277. 1920; BRITTON & MILLSFAUGH, Bahama Fl. 178. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 385. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 204. 1931; LEON & ALAIN, Fl. Cuba 2: 289. fig. 120. 1951; ARNOLDO, Zakflora 59. 1954; Zakflora 145. 1964; GOODING *et al.*, Fl. Barbados, 216. 1965; ADAMS, Flowering plants of Jamaica 343. 1972.

Shrub, up to 2.5 m high; branches, petioles, leaf rhachides, lower leafsurface, inflorescence and calyx white-grey or silky-tomentose. Leaves up to 20 cm long, the petiole up to 3 cm long, included; leaflets 11—17, opposite or nearly so, inequilateral, oblong, oblong-obovate, ovate or elliptical, rounded or emarginate at the apex, rounded at the base, margins curved downwards, coriaceous, tomentose, glabrescent, 1—5  $\times$  1—4 cm. Stipules and stipellae wanting. Inflorescence consisting of elongate, up to 40 cm long racemes; peduncle stout, pedicels about 1 cm long; bracts subulate, 2 mm long. Receptacle saucer-shaped, 2 mm long. Calyx campanulate, truncate and indistinctly 5-toothed, 7—10 mm long. Corolla yellow; standard elliptical, rounded and slightly retuse at the apex, 1.5  $\times$  2.0 mm, tapering below into a short, broad claw; wings and keel-petals about equally or slightly shorter than the standard; wings 13  $\times$  2—3 mm with 6 mm long claw; keel 12—13  $\times$  4 mm with 7—8 mm long claw. Filaments rather stout, 1.5 cm long; anthers oblong, 1  $\times$  0.5 mm. Ovary densely and  $\pm$  appressed rusty-tomentose. Pod 5—15 cm long, strongly constricted between the seeds, tomentose; stipe up to 3 cm long. Seeds 5—9, subglobose, brownish, about 6 mm in diam.

Tropical and subtropical regions.

On sandy and coral coasts.

ARUBA: "near the sea" (Boldingh s.n., fl. & fr.); Rif near Oranjestad (Suringar s.n., fr. Febr. [L]).

**BONAIRE: calcareous hills of Rooi Samboe (Boldningh 7436, fr. Feb.).**

CURAÇAO: Boca St. Marie (Arnoldo 1169, fl. & fr. Oct.); strand of Bullenbaai, near the saltponds of St. Willebrordus (Stoffers 374, fl. & fr. Oct.); Fuik Plantation, rif (Stoffers 5021, fl. & fr. Nov.). According annotations on the vouchers by YAKOVLEV all specimens from the Leeward Group belong to subsp. *havanensis* (Jacq.) Yakovlev. The revision appeared in Proc. Leningr. Chem. Pharm. Inst. 21. 1967 but could not be obtained.

**Crotalaria** Linnaeus, Spec. Plant. 714. 1753

Herbs, undershrubs or shrubs. Leaves alternate, simple or digitately compound. Stipules large and foliaceous or small and rarely wanting; stipellae wanting. Inflorescence consisting of terminal or rarely axillary racemes or the racemes opposite the leaves, rarely flowers solitary; bracts small or wanting, rarely foliaceous; bracteoles small, rarely wanting. Calyx campanulate, 5-lobed, slightly bilabiate. Petals unguiculate. Corolla yellow, rarely blue or purple; standard orbicular, ovate or obovate, bi-callous and bi-auriculate at the base, the auricles inflexed; wings oblong or obovate, smaller than the standard; keel curved, prominently beaked. Stamens 10, monadelphous, the sheath split above; anthers of two forms, alternately small, versatile and large, basifixed. Ovary sessile, rarely stipitate; style curved, barbed at the inner curve; stigma terminal, small or rarely bilobed. Ovules 2 to many. Pod globose or oblong, bivalved, turgid or inflated. Seeds 2 to many, oblong-reniform, with filiform funiculus.

About 550 species, in the tropics and subtropics of both hemispheres, but most numerous in tropical Africa.

### Key to the species:



### **Crotalaria retusa L.**

LINNAEUS, Spec. Plant. 715. 1753; GRISEBACH, Fl. Br. W. Ind. Isl. 179. 1859; DUSS, Fl. phan. Ant. fran . 193. 1897; URBAN, Symb. Ant. 4: 281. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 87. 1909; Fl. Ned. W. Ind. Eil. 215. 1913; Fl. D.W. Ind. Isl. 2: 40. 1914; FAWCETT & RENDLE, Fl. Jamaica 4(2): 9. 1920; URBAN, Symb. Ant. 8: 278. 1920; BRITTON & MILLSPAUGH, Bahama Fl. 178. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 387. 1914; WILLIAMS, Fl. Trinidad & Tobago 1: 221. 1931; QUESTEL, Fl. Isl. St. Bartholomew 118. 1941; LEON & ALAIN, Fl. Cuba 2: 293, fig. 123A. 1951; ARNOLDO, Zakflora 148, fig. 151. 1954; Gekw. en nutt. pl. Ned. Ant. 53, fig. 81. 1954; Zakflora

139, fig. 151. 1964; GOODING *et al.*, Fl. Barbados 201. 1965; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 158, fig. 81. 1971; ADAMS, Flowering plants of Jamaica 347. 1972.

Erect annual, branched undershrub, up to 1 m tall, silky-puberulous or glabrate. Leaves simple, subsessile, spatulate, oblanceolate or oblong, rounded or retuse at the apex, cuneate at the base, up to 7 × 3 cm, glabrous above, appressed-pubescent beneath. Stipules small, subulate, up to 2(—4) mm long, deciduous. Inflorescence consisting of terminal, many-flowered racemes, up to 20(—25) cm long; pedicels 5—10 mm long; bracts subulate, 2(—4) mm long, reflexed; bracteoles filiform, 1—2 mm long. Flowers pendulous, showy. Calyx bilabiate; the tube 3—4 mm long; the 2 superior teeth triangular, the 3 inferior ones lanceolate, 6—7 mm long. Petals yellow; standard suborbicular, 2 cm long and wide, often purplish spotted, tapering into a 2—3 mm long claw; wings oblong-ovate, 1.5 cm long and with a 0.5 cm long claw, pubescent; keel with 17—18 mm long lamen ciliate and 2—3 mm long, pubescent claw and with a short slightly incurved twisted beak. Stamens 10; filaments 15—18 mm long; smaller anthers 1 × 1 mm, the larger ones linear, 2.5 × 0.5 mm. Ovary glabrous; style pubescent. Pod oblong, glabrous, 3—4 cm long and 1 cm thick, beaked. Seeds 12—20, black, shiny, 3—4 mm.

Tropical and subtropical regions.

Rather common weed, especially at lower altitudes.

Vernacular names: leeuwenbekje (Leeward Group).

big yellow popbush (Windward Group).

ARUBA: in garden in Savaneta (Stoffers 1593, fl. Jan.; 1494, fl. & fr. Jan.).

CURAÇAO: Julianadorp (Stoffers 323, fl. Oct.; 1310, fl. & fr. Jan.; Arnoldo 1935, fl. Feb.); Zuikertuintje (Suringar s.n., st. Feb. [L]).

SABA: Laddergut, 0—200 m (Boldsingh 1961, fl. July); lower part of the Bottom Mountain, 250 m (Boldsingh 1387, fl. & fr. July); The Bottom (Arnoldo 885, fl. & fr. Aug.); between The Bottom and St. John (Stoffers 3270, fl. & fr. May); hill north-west of The Bottom, 300—350 m (Stoffers 3304, fl. & fr. May); ibid. 250—275 m (Stoffers 2922, fl. Ap.).

ST. EUSTATIUS: top of The Quill, 400 m (Boldsingh 231, fr. June); slope of The Quill (Suringar s.n., fl. & fr. Ap. [L]); White Wall (Boldsingh 810, fl. & fr. June); along roads near Bengalen (Boldsingh 1187, fl. & fr. June); Cultuurvlakte, Golden Rock-Zeelandia (Suringar s.n., fl. Ap. [L]); Fairplay (Suringar s.n., fl. & fr. Ap. [L]).

ST. MARTIN: in an orchard near Bellevue (Boldsingh 2848, fl. Aug.); along the road at the western side of Great Salt Pond (Stoffers 2431, fl. & fr. March); Naked Boy Hill (Stoffers 2704, fl. Ap.); from Guana Bay to Philipsburg (Boldsingh 2436, fl. Aug.); Pointe Blanche (George s.n. sub Boldsingh 2491, fr. Aug.); Philipsburg (Arnoldo 3152, fl. & fr. Dec.).

#### ***Crotalaria verrucosa* L.**

LINNAEUS, Spec. Plant. 715. 1753; GRISEBACH, Fl. Br. W. Ind. Isl. 178. 1860; Duss, Fl.

phan. Ant. franç. 192. 1897; BOLDINGH, Fl. D.W. Ind. Isl. 1: 87. 1909; Fl. Ned. W. Ind. Eil. 215. 1913; FAWCETT & RENDLE, Fl. Jamaica 4(2): 8. 1920; URBAN, Symb. Ant. 8: 278. 1920; BRITTON & MILLSPAUGH, Bahama Fl. 178. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 386. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 219. 1931; QUESTEL, Fl. Isl. St. Bartholomew 118. 1941; LEON & ALAIN, Fl. Cuba 2: 293. 1951; GOODING *et al.*, Fl. Barbados 202. 1965; ADAMS, Flowering plants of Jamaica 346. 1972.

Erect much branched, annual herb, somewhat shrubby below, up to 1 m tall; branches 4-angled, appressed-pubescent. Leaves simple; blade broadly ovate to roundish-elliptical, obtuse, rounded or acute at the apex, cuneate at the base, glabrous above, minutely pubescent beneath, 2—8(—10) × 2—6 cm; petiole angled. Stipules foliaceous, ovate-falcate, acuminate, reflexed, 3—10 mm long. Inflorescence consisting of terminal, up to 15(—20) cm long, many-flowered racemes; peduncle and rhachis angled; bracts lanceolate, 3 mm long, reflexed; pedicels 5—8 mm long, minutely bi-bracteolate at the middle. Calyx bilabiate; tube 3 mm long; the 3 superior lobes ovate to triangular, acuminate, 6—7 mm long, the 2 inferior lobes lanceolate, 6 mm long. Petals blue, variegated; standard greenish, orbicular, 12 × 12 mm, with 2—3 mm long claw; wings obovate-elliptic, 11 × 6 mm, claw 4 mm long; keel rounded about the middle, 11 × 6 mm, with short incurved twisted beak, claw 3 mm long. Stamens 10; filaments 10 mm long; smaller anthers, 1 × 1 mm, the larger ones lanceolate, 2.5 × 1 mm. Ovary tomentose. Pod sessile to shortly stipitate, oblong, beaked, appressed-pubescent with long hairs, 3—4 cm long and 9—12 mm thick. Seeds oblique-cordiform, shiny, brown, 5 × 4 mm.

Tropical regions.

Rather common weed, especially at dry places.

Vernacular name: purple popbush (Windward Group).

SABA: road near Hellsgate (Arnoldo 747, fl. & fr. Aug.).

ST. EUSTATIUS: along roads in Cultuurvlakte (Suringar s.n., fl. Ap. [L]; Stoffers 3820, fl. July); Fairplay (Suringar s.n., fl. & fr. Ap. [L]); along roads in Oranjestad (Boldingh 923, fl. June); slope of The Quill (Suringar s.n., fl. Ap. [L]); western slope of The Quill, 250 m (Stoffers 4728, fl. Aug.).

ST. MARTIN: along road from Grande Case to Marigot (Boldingh 3108, fl. Sept.); along road at the western side of Great Salt Pond (Stoffers 2430, fl. & fr. March); Airfield (Stoffers 2404, fl. March; 2389, fr. March); along the road near Naked Boy Hill (Stoffers 2296, fl. March); Philipsburg (Arnoldo 3429, fl. March); Philipsburg (Arnoldo 3429, fl. & fr. Jan.).

#### **Crotalaria incana L.**

LINNAEUS, Spec. Plant. 716. 1753; GRISEBACH, Fl. Br. W. Ind. Isl. 180. 1859; Duss, Fl. phan. Ant. franç. 193. 1897; URBAN, Symb. Ant. 4: 281. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 87. 1909; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 218. 1909; BOLDINGH, Fl. Ned. W. Ind. Eil. 215. 1913; Fl. D.W. Ind. Isl. 2: 39. 1914; FAWCETT & RENDLE, Fl. Jamaica 4(2): 11. 1920; BRITTON & MILLSPAUGH, Bahama Fl. 179. 1920; URBAN, Symb.

Ant. 8: 279. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 386. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 221. 1931; QUESTEL, Fl. Isl. St. Bartholomew 118. 1941; LEON & ALAIN, Fl. Cuba 2: 294. 1951; ARNOLDO, Zakflora 104. 1954; Zakflora 139. 1964; GOODING *et al.*, Fl. Barbados 200. 1965; ADAMS, Flowering plants of Jamaica 345. 1972.

Erect, well-branched, annual or biennial herb, up to 1 m tall; stem slightly woody at the base; branches densely pubescent. Leaves 3-foliolate; leaflets obovate or broadly elliptical, the terminal leaflet larger than the lateral ones, rounded or emarginate and mucronulate at the apex, obtuse or cuneate at the base, 2.5—5 × 2—4 cm, pubescent beneath, glabrate above; petiolules about 1 mm long; petiole 2—6 cm long, densely pubescent. Stipules setaceous, 5 mm long or less, deciduous. Inflorescence consisting of terminal, several- to many-flowered racemes; peduncle 10 cm or more long, densely pubescent; pedicels 2—3 mm long; bracts filiform, 5 mm long; bracteoles filiform, partly united with the pedicel, the free part about 3 mm long. Calyx pubescent; tube 2—3 mm long, the lobes lanceolate, acuminate, 7—9 mm long. Corolla yellow; standard mucronulate at the apex, orbicular to elliptic, 10—13 × 9—11 mm, claw 1—2 mm long; wings 8—19 × 3 mm, the claw 2 mm long; keel falcate-oblong, densely barbed at the margin, about 9 mm long. Stamens 10; filaments up to 13 mm long; smaller anthers roundish, 0.5 mm, the larger ones oblong, 1.5 mm long. Ovary sessile, densely pubescent. Pod oblong, pendulous, apiculate, spreading-pilose, 2—3.5 × 1 cm. Seeds several to many, yellow-brown, and mottled, kidney-shaped, 3 × 3 mm, flattened.

Tropical and subtropical regions.

Vernacular name: small yellow popbush (Windward Group)  
maraca (Leeward Group)

ARUBA: along road in the vicinity of Oranjestad (Stoffers 2038, fl. Feb.); along road in Oranjestad (Suringar s.n., fr. Feb. [L]); Stoffers 2148, fl. & fr. Feb.); along road near Seroe Pretoe (Stoffers 1683, fl. Jan.); in garden in Savaneta (Stoffers 1909, fl. & fr. Jan.); along road near Noord (Stoffers 1552, fl. Jan.); calcareous soil near Oranjestad (Boldsingh 6223, fl. & fr. Dec.); hofje at the foot of Hooiberg (Arnoldo 127, fl. & fr. Dec.); Fontein (Stoffers 1726, fl. & fr. Jan.); without loc. (Koolwijk s.n. sub Boldsingh s.n., fl. & fr. [L]; Boldsingh s.n., fl.).

BONAIRE: hofje of Nikiboko (Arnoldo 469, fl. & fr. Feb.); neighbourhood of Rincón (Boldsingh 7128, fl. & fr. Feb.); hofje of Fontein (Arnoldo 462, fr. Dec.; Stoffers 559, fr. Nov.; Suringar s.n., st. Feb. [L]).

CURAÇAO: hofje of Knip (Boldsingh 5490, fl. & fr. Dec.); hofje of Barber (Boldsingh 5227, fl. & fr.); Hato (Arnoldo 1590, fl. & fr. March); Noordkant Plantation (Stoffers 155, fl. & fr. Oct.); Santa Barbara Plantation (Stoffers 6171, fl. & fr. Feb.); without loc. (Aschenberg s.n., fl.).

SABA: Windwardside (Boldsingh 2144, fl. & fr. July); The Bottom (Arnoldo 717, fl. & fr. Aug.); hill north-west of The Bottom, 225 m (Stoffers 3305, fl. & fr. May).

ST. EUSTATIUS: along road in Oranjestad (Stoffers 3877, fl. & fr. July).

St. MARTIN: mountain between Mont des Accords and Sentry Hill, 200—300 m (Boldingh 2872, fr. Aug.); along the road from Marigot to Philipsburg (Boldingh 3110, fl. Sept.).

**Gliricidia** H.B.K., Nov. Gen. et Spec. 6: 393. 1823

Trees or shrubs. Leaves alternate or subopposite, imparipinnate; leaflets opposite, entire. Stipules small, deciduous; stipellae wanting. Inflorescence consisting of axillary racemes, the flowers appearing when the plant is out of leaf. Bracts small, deciduous; bracteoles wanting. Calyx campanulate, entire or shortly 5-toothed. Petals clawed. Standard reflexed, roundish, emarginate at the apex, callous at the base. Wings oblong, free. Keel curved. Stamens 10, dia-delphous, the vexillar stamen free. Ovary stipitate; stigma terminal. Ovules few to several. Pod oblong to broadly linear, flat-compressed, dehiscent; the margins somewhat thickened. Seeds flat, roundish-elliptic to ovate.

About 5 species in tropical America.

**Gliricidia sepium** (Jacq.) Steudel

STEUDEL, Nom. Bot. ed. 2. 688. 1841; URBAN, Symb. Ant. 2: 228. 1900; Symb. Ant. 4: 284. 1905; BOLDINGH, Fl. Ned. W. Ind. Eil. 217. 1913; Fl. D.W. Ind. Isl. 2: 41. 1914; FAWCETT & RENDLE, Fl. Jamaica 4(2): 22. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 392. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 247. 1931; LEON & ALAIN, Fl. Cuba 2: 308, fig. 127. 1951; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 68. 1954; GOODING *et al.*, Fl. Barbados 208. 1965; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 159, fig. 200. 1971; ADAMS, Flowering plants of Jamaica 347. 1972; — *Robinia sepium* JACQUIN, Enum. Syst. Plant. Carib. 28. 1760; Sel. Stirp. Amer. 211, tab. 179, fig. 101. 1763; SWARTZ, Fl. Ind. Occ. 1258. 1806; — *Lonchocarpus sepium* DECANDOLLE, Prodr. 2: 260. 1825.

Deciduous, rather small tree or shrub, up to 7 m tall; young twigs pubescent. Leaves alternate, petiolate, densely silver-pubescent when young, nearly glabrous afterwards, 9—17-foliolate; leaflets slightly inequilateral, ovate, elliptic or lanceolate, the terminal one often obovate, acute or acuminate at the apex, rounded or cuneate at the base; petiole 4—6 cm long, canaliculate above; rhachis 7—12 cm long; petiolules 2—4 mm long. Stipules small, lanceolate, caducous. Racemes 6—10 cm long, glabrous, many-flowered; pedicels 7—10 mm long, articulate. Bracts ovate, long-acuminate. Calyx campanulate, 5—6 mm long, very shortly sinuate-dentate, glabrous. Standard with a white or yellow spot, lamen orbicular, 1.5—2.0 cm, emarginate at the apex, the claw 0.5 cm long. Wings with 1.8—2.0 cm long lamen and 0.3 cm long claw. Keel-petals with nearly 1.5 cm long lamen and nearly 1 mm long claws. Stamens with 15 mm long filaments and nearly 1 mm long, oblong anthers. Ovary glabrous, the stipe 5 mm long; style 4 mm long, bent at a right angle to the pistil; stigma subcapitate. Pod oblong, glabrous, 10—12(—15) cm long and (1.2—)1.5(—2) cm wide. Seeds 3—6, about 1 cm long.

Native of Central America and Colombia; cultivated and subs spontaneous in the West Indies.

Vernacular names: mata ratón, yerba di tonka, yerba di ratón, ratonera (Leeward Group); cough bush (Windward Group).

ARUBA: along roads near Seroe Pretoe (Stoffers 1682, fl. Jan.).

CURAÇAO: Piscadera Baai (Britton & Shafer 3132, fl. March); road near Blein (Boldinh 4755, fl. Oct.).

ST. EUSTATIUS: Cultuurvlakte (Burgers 183, fl. & fr. Feb.).

**Piscidia Linnaeus, Syst. Nat. ed. 10. 1155, 1376. 1759, nom. conserv. 3839**

Trees or shrubs, unarmed. Leaves alternate, imparipinnate, 5—27-foliolate; leaflets opposite. Stipules obliquely ovate, semi-orbicular or reniform, early caducous; stipellae wanting. Inflorescence consisting of axillary or terminal panicles, appearing before the leaves. Bracts minute, soon deciduous; bracteoles deciduous, opposite at the base of the calyx. Calyx campanulate with 5 short, broad teeth, the upper two sepals higher connate. Standard suborbicular. Wings falcate, oblong, somewhat longer than the standard. Keel-petals connate at the base. Stamens monadelphous; filaments united at the middle in a closed tube, the vexillar stamen free at the base; anthers versatile. Ovary stipitate or sessile; style filiform, bent at a nearly right angle to the ovary; stigma minute, terminal. Ovules many. Pod stipitate, linear, compressed, slightly contracted between the seeds, provided with 4 broad, longitudinal wings. Seeds compressed, reniform.

Seven species from Mexico and Florida southward through Central America and the West Indies to northern Peru and Venezuela.

**Piscidia carthagrenensis Jacq.**

JACQUIN, Enum. Plant. Carib. 27. 1760; Select. Stirp. Amer. Hist. 210. 1763; V. E. RUDD, Phytologia 18: 490. 1969; — *Piscidia piscipula* Auct. non (L.) SARGENT; URBAN, Symb. Ant. 4: 297. 1905 p.p.; BOLDINGH, Fl. D.W. Ind. Isl. 1: 92. 1909; Fl. Ned. W. Ind. Eil. 222. 1913; FAWCETT & RENDLE, Fl. Jamaica 4(2): 84. 1920 p.p.; URBAN, Symb. Ant. 8: 299. 1920; QUESTEL, Fl. Isl. St. Bartholomew 122. 1941; LEON & ALAIN, Fl. Cuba 2: 333. 1951 p.p.; GOODING *et al.*, Fl. Barbados 213, fig. 12. 1965; ADAMS, Flowering plants of Jamaica 347. 1972; — *Ichthyometia piscipula* Auct., non (L.) HITCHCOCK; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 409. 1924 p.p.

Deciduous tree, up to 15 m tall; trunk in well grown specimens up to 70 cm in diam.; young stems puberulent, glabrescent. Leaves petiolate, 5—15-foliolate; rhachis 5—14 cm long, puberulous; leaflets elliptic, oblong or ovate, acute, rounded or retuse and often mucronulate at the apex, rounded or truncate at the base, up to 12 × 6 cm; the secondary veins conspicuously beneath, glabrous or nearly so above, sparsely to densely pubescent with short appressed hairs, or some hairs lax to patent on the lower surface, margin slightly undulate; petiolules 4—6 mm long, puberulous; petiole 3—8 cm long, puberulous. Stipules obliquely ovate, 3—5 mm long, deciduous; stipellae wanting. Panicles many-flowered, axis and pedicels puberulous. Bracts ovate, 1 mm long; bracteoles

ovate-oblong, 1.5—2 mm long. Calyx 5—8 mm long, campanulate with 5 broad teeth, tomentose. Corolla white, tinged with red or purple. Standard roundish, emarginate, puberulous on the outer surface, 1.2—1.5 cm long, the claw 2.5 mm long. Wings oblong-ovate, auriculate, 9 mm long and 7 mm long, tomentose claw. Keel-petals semi-orbicular, united beyond the middle, 8—9 × 4 mm, auriculate at the base, tomentose especially along the veins and with a 7 mm long claw. Stamen-filaments 1—1.5 cm long; anthers  $\frac{3}{4}$  mm long. Ovary stipitate, with 2 lateral grooves, tomentose; style glabrous, bent at a nearly right angle at the ovary; stigma small, terminal. Pod linear, compressed, beaked, 6—9(—11) cm long, included the 6—20 mm long stipe, pubescent; wings 1—2.5 cm wide, minutely puberulent, conspicuously veined. Seeds (1—)4—9, oblong-ovate to kidney-shaped, 0.5 cm long, black.

Mexico and Lesser Antilles southward to Venezuela and northern Peru.

Mainly in dry regions at lower altitudes.

Vernacular name: stinkwood.

**St. EUSTATIUS:** near White Wall (Stoffers 4767, st. Aug.; Boldingh 823, st. June); between Venus and Little Mountains (Stoffers 4027, st. July); from Tumble Down Dick Bay to Signal Hill (Boldingh 164, st. May); slope near Concordia Bay (Suringar s.n., fr. Ap. [L]); near Seinpost (Suringar s.n., fl. Ap. [L]); near Boven (Suringar s.n., fl. Ap. [L]); without loc. (v. Groll-Meyer 314H, fl. & fr.; s.n., st.; Suringar s.n., st. May [L]).

**St. MARTIN:** hills along northern side of Cul de Sac, 75—100 m (Stoffers 2613, fr. March); top of Mount William (Stoffers 2546, fr. March); ibid. 0—50 m (Boldingh 2544, st. Aug.); Princess Quarter (George s.n. sub Boldingh 2477, st. Aug.); Kay Bay Hill (Arnoldo 1303, fl. March); French border (Suringar s.n., fl. May [L]).

**Lonchocarpus** Kunth, in H.B.K., Nov. Gen. et Spec. 6: 383. 1824, nom. cons. 3834

Trees or shrubs or rarely lianas. Leaves alternate, imparipinnate; leaflets opposite or subopposite, the upper ones usually larger. Stipules small, caducous or subpersistent; stipellae wanting or minute. Inflorescence consisting of axillary or terminal, simple or paniculate racemes or flowers 2 together on a short peduncle or in clusters in a racemes-like inflorescence. Bracts small, usually caducous; bracteoles as the bracts, often approximate to the calyx. Calyx campanulate or cupulate, truncate or very shortly 5-dentate with the upper 2 teeth higher connate or 4-dentate and then the superior tooth somewhat emarginate. Petals much longer than the calyx, unguiculate, mostly violaceous. Standard suborbicular, often emarginate, bicallous or bi-auriculate at the base. Wings adherent to the keel. Keel straight or curved, obtuse. Stamens 10, monadelphous; filaments united into a tube closed above but the vexillar stamen free at the base by splitting of the tube; anthers small, dorsifixed, versatile. Ovary sessile or short-stipitate; style curved, glabrous or with scattered hairs like those of the ovary in the lower part; stigma small. Ovules 2 to many. Pods indehiscent, flat or flat-compressed, broadly ovate to linear-oblong, membrana-

ceous or coriaceous, the vexillary suture sometimes thickened. Seeds 1 to few, reniform, with small hilum.

About 90 species in the tropics, mostly in America.

***Lonchocarpus benthamianus* Pittier**

PITTIER, Contr. U.S. Nat. Herb. 20: 86, fig. 37. 1917; GOODING *et al.*, Fl. Barbados 210. 1965; — *Lonchocarpus violaceus* BENTHAM, Journ. Proc. Linn. Soc. Bot. 4: Suppl. 95. 1860, non H.B.K.; BOLDINGH, Fl. D.W. Ind. Isl. 1: 92. 1909; Fl. Ned. W. Ind. Eil. 221. 1914; — *Lonchocarpus caribaeus* URBAN, in Fedde, Repert. Spec. Nov. 17: 156. 1921.

Tree up to 15 m tall, glabrous. Leaves 7—11-foliate; leaflets opposite or subopposite, ovate, elliptic or elliptic-ovate, bluntly acuminate at the apex, rounded and slightly inequilateral at the base, 4—7(—9) × 1.5—3(—4.5) cm, membranaceous, dark green above, paler and black-dotted beneath, glabrous or only very sparsely pubescent when young, sparsely strigose-pubescent when young and glabrescent, or very sparsely strigose on the midvein in the lower portion; rhachis canaliculate in the lower part. Stipules small; stipellae wanting. Inflorescence axillary, raceme-like, 10—25 cm long. Flowers 2 together on a 5—7 mm long peduncle; pedicels slender, 5—7 mm long, sparsely strigose. Bracts and bracteoles ovate to suborbicular, less than 1 mm long, ciliate, often soon deciduous. Calyx broadly cupulate, truncate, 5 mm long, glabrous. Petals mauve, turning white in age. Standard orbicular, emarginate at the apex, 12 × 13 mm, auriculate at the base, the claw strongly arcuate, 2 mm long. Wings obovate, oblique, rounded at the apex, auriculate at the base, the lower margin arcuate, the upper margin more or less inflexed, about 10 × 5 mm, the claw about 5 mm long. Keel-petals falcate, convex in the middle, rounded at the apex, about 10 × 5 mm, the claw c. 5 mm long. Stamens: filaments connate into a c. 9 mm long tube, free part of filaments for c. 4 mm curved; anthers about 1 mm long. Ovary sessile, linear, minutely pubescent; style 6 mm long, curved, hairy towards the apex. Ovules 3—4. Pod not seen (pale straw-coloured, 6—8 cm long and 3—4 cm broad, flattened, 1—2 seeded, according to GOODING *et al.*).

Lesser Antilles.

In seasonal forests at lower altitudes.

St. EUSTATIUS: slope of The Quill, 300 m (Boldingh 888, fl. June); top of The Quill, 450 m (Boldingh 345, st. June); between Glass Bottle and White Wall, 100—240 m (Stoffers 4076, st. Aug.; 3836, st. July; 4046, st. Aug.; 4105, st. Aug.); without loc. (Boldingh s.n., st.).

***Andira* Jussieu, Gen. 363. 1789, nom. conserv. 3841**

Trees. Leaves alternate, imparipinnate; leaflets opposite or rarely alternate. Stipules persistent or deciduous; stipellae present or wanting. Inflorescence consisting of terminal panicles or the panicles arising from the axils of the

terminal leaves. Bracts small, deciduous; bracteoles appressed to the calyx, deciduous. Calyx campanulate, shortly 5-dentate. Standard orbicular, emarginate, clawed. Wings oblong, obtuse. Keel-petals not united, similar to the wings, but somewhat broader. Stamens 10; filaments united into a sheath, split on the upside, but the vexillar one free; anthers uniform, versatile. Ovary stipitate; style short, incurved; stigma small, terminal. Ovules few. Pod globose to ovoid, indehiscent, drupaceous; pericarp woody. Seed one, pendulous.

About 30 species in tropical America, one species also in West Africa.

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

HUMBOLDT, BONPLAND & KUNTH, Nov. Gen. et Spec. 6: 385. 1824; GRISEBACH, Fl. Br. W. Ind. Isl. 202. 1860; DUSS, Fl. phan. Ant. franç. 223. 1897; FAWCETT & RENDLE, Fl. Jamaica 4(2): 84, fig. 27. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 409. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 251. 1931; LEON & ALAIN, Fl. Cuba 2: 334, fig. 138. 1951; ADAMS, Flowering plants of Jamaica 349. 1972; — *Geoffroea inermis* WRIGHT, Lond. Med. Journ. 8: 256. 1787; — *Andira jamaicensis* URBAN, Symb. Ant. 4: 298. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 93. 1909; Fl. Ned. W. Ind. Eil. 222. 1913; URBAN, Symb. Ant. 8: 300. 1920.

Tree, up to 20 m tall. Leaves up to 40 cm long; leaflets 7—13, opposite, oblong to oblong-lanceolate, acuminate to long-acuminate, obtuse to cuneate at the base, glabrous, parchment-like, 5—13 × 2.5—4 cm; petiolules 1—2 mm long; petiole 6—7 cm long. Stipules linear, deciduous, 5—10 × 1 mm; stipellae subulate, 3—5 mm long, deciduous. Panicles up to 30 cm long, tomentose, dense-flowered; pedicels 1 mm long. Flowers pink to purplish. Calyx 4—5 mm long, tomentose. Standard orbicular, emarginate, 10—11 mm in diam., with a notched, about 2 mm long claw. Wings and keel-petals about 10 mm long. Stamens: filaments 9 mm long; anthers 1 mm long. Ovary pubescent at the sutures. Ovules 3—4. Pod one-seeded, stipitate, subglobose or ellipsoidal, about 3.5 cm long, fleshy outside, woody within.

Tropical America and tropical West Africa.

In seasonal and evergreen forests.

SABA: Booby Hill, 600 m (Arnoldo 3279, fl. Dec.); Windwardside (Arnoldo 3384, fl. Jan.).

ST. EUSTATIUS: The Quill (Boldingh 442, st. June; 906, st. June); near Signal Hill (Boldingh 1252A, st. May).

**Geoffroea** Jacquin, Enum. Syst. Plant. Car. 7, 28. 1760

Trees. Leaves alternate, imparipinnate; leaflets alternate to subopposite. Stipules caducous; stipellae wanting. Inflorescence consisting of terminal or axillary panicles or racemes. Bracts caducous, small; bracteoles small and caducous or wanting. Flowers often footed, yellow to orange, often subsessile. Calyx campanulate with 5 distinct, subequal lobes or the lobes unequal and then the 2

higher lobes connate. Petals 5, free; standard suborbicular, unappendaged; wings and keel nearly alike, the keel-petals not united. Stamens 10; filaments united into a split tube or the vexillar stamen free; anthers versatile. Ovary sessile or short-stipitate; style incurved, glabrous; stigma terminal, small. Ovules 2—5. Pod indehiscent, drupaceous, ovoid, 1-seeded. Seed subreniform with lateral hilum or lenticular with subapical hilum.

Probably only 2 species in tropical South America from Colombia and Venezuela south to northern Patagonia; Galápagos Islands.

**Geoffroea spinosa** Jacq.

JACQUIN, Enum. Syst. Plant. Car. 28. 1760; Sel. Stirp. Am. Hist. 207, t. 180, fig. 62. 1763; — *Robinia striata* WILLDENOW, Spec. Plant. 3: 1132. 1803; — *Geoffroea striata* (WILLD.) MORONG, Ann. N.Y. Acad. Sci. 7: 87. 1893; — *Geoffroea superba* HUMBOLDT & BONPLAND, Pl. Equinox. 2: 69, t. 100. 1809; BOLDINGH, Fl. Ned. W. Ind. Eil. 222. 1913; Fl. D.W. Ind. Isl. 2: 42. 1914; ARNOLDO, Zakflora 18. 1954; Zakflora 191. 1964.

Tree, up to 6 m tall; stems tomentulose, glabrescent in age; non-flowering and older stems often spiny. Stipules subdeltoid to ovate, 2—5(—6) mm long, tomentulose above. Leaves (9—)13—17-foliolate, up to 15 cm long, its 1—2 cm long petiole included; leaflets alternate to subopposite, oblong to obovate, obtuse, retuse or emarginate at the apex, slightly inequilateral at the base, (1—) 2—4.5 × (0.8—)1.5—2 cm, puberulent, glabrescent, secondary veins numerous, conspicuous, parallel, the margin entire and often somewhat undulate; petiolules 1—1.5 mm long. Racemes axillary and terminal, greyish or rufescently tomentulose, equalling or exceeding the leaves in length. Bracts ovate, c. 3 mm long. Pedicels 2 mm long. Flowers yellow. Calyx 5—7 mm long, incurved, acute at the base, tomentulose, the lobes 2—3 mm long. Standard suborbicular, 8 × 8—10 mm, the claw 3 mm long, fleshy. Wings oblong, c. 6 × 3 mm. Keel-petals oblong, 6 × 3 mm, auriculate at the base, the claw 5 mm long. Vexillar stamen free; filaments 12 mm long; anthers oblong, 1 mm long, dorsifixed, versatile. Ovary sessile, tomentose; style c. 12 mm long; stigma small. Ovules (3—)4. Pod ovoid to subglobose, 2—2.5(—3) cm long and 2—2.5 cm across, yellow, woody, tomentulose. Seeds light-brown, lenticular to ovoid-oblong with apical hilum, embedded in sour pulp.

From Colombia and Venezuela to Argentine; Bonaire, Curaçao, and Galápagos Islands.

BONAIRE: neighbourhood of Rincón (Boldingh 7141, st. Jan.); Onima Plantation (Suringar s.n., st. Feb. [L]); Boca Onima (Suringar s.n., st. Feb. [L]); Kralendijk (Suringar s.n., st. Feb. [L]).

CURAÇAO: Hofje of Klein Piscadera (Boldingh 4842, fl. & fr. Oct.); near Caracas Baai (Boldingh 4808, st. Jan.); Savonet (Suringar s.n., fl. Jan. [L]); in rooi near Seroe Gracia (Stoffers 8269, st. Jan.); without loc. (Realino s.n., fl. Sept.).

**Tephrosia** Persoon, Syn. Plant. 2: 328. 1807

Annual or perennial herbs or soft-wooded shrubs, with silky pubescence by basifixed hairs. Leaves petiolate, imparipinnate; leaflets opposite, entire with

crebrous obliquous parallel nerves. Stipules usually setaceous; stipellae wanting. Inflorescence consisting of terminal, axillary or leaf-opposed racemes or rarely flowers axillary. Bracts present; bracteoles wanting. Calyx campanulate, 5-fid or 5-dentate, the lower tooth mostly longer, the 2 upper teeth somewhat connate. Petals clawed. Standard with orbiculate lamen, sericeus outside. Wings obliquous-oblong, auriculate, rugose near the base, slightly adhering to the keel. Keel-petals auriculate at the base, glabrous. Stamens monadelphous or the vexillar stamen free at last; anthers uniform. Ovary sessile, 1-to many-ovulate; style glabrous; stigma terminal. Pod linear, flat, beaked, and 2-valved, without partitions between the seeds.

About 200 species in tropical and subtropical regions.

#### Key to the species:

- Decumbent or ascending perennial; leaflets 9—15, acutish or obtuse and mucronate; corolla about 1 cm long . . . . . *T. cinerea*  
Erect perennial; leaflets 5—9, mostly retuse; corolla 7—8 mm long.  
Windward Group . . . . . *T. cathartica*

#### *Tephrosia cinerea* (L.) Pers.

PERSOON, Syn. Plant. 2: 328. 1807; GRISEBACH, Fl. Br. W. Ind. Isl. 182. 1859; Duss, Fl. phan. Ant. franç. 195. 1897; URBAN, Symb. Ant. 4: 283. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 88. 1909; Fl. Ned. W. Ind. Eil. 217. 1913; Fl. D.W. Ind. Isl. 2: 40. 1914; URBAN, Symb. Ant. 8: 283. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 20. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 233. 1931; QUESTEL, Fl. Isl. St. Bartholomew 119. 1941; LEON & ALAIN, Fl. Cuba 2: 303, fig. 125. 1951; ARNOLDO, Zakflora 101. 1954; Zakflora 145. 1964; ADAMS, Flowering plants of Jamaica 351. 1972; — *Galega cinerea* LINNAEUS, Syst. Nat. ed. 10. 1172. 1759; — *Cracca cinerea* (LINNAEUS) MORONG, Ann. N.Y. Acad. Sci. 7: 79. 1892; BRITTON & MILLSPAUGH, Bahama Fl. 181. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 391. 1924.

Annual herb, variable in habit; stems erect, diffuse, decumbent or ascending, long, slender, appressed silky-pubescent. Leaves petiolate, 4—7 cm long, 9—13 (—17)-foliolate; leaflets oblanceolate or sometimes narrowly oblong or oblong-elliptical, obtuse or rounded and mucronate at the apex, acute or obtuse at the base, silky appressed-pubescent, especially beneath, often glabrescent above,  $0.5-4 \times 0.2-0.8$  mm. Stipules up to  $5 \times 1$  mm, acuminate, persistent. Racemes apparently opposite the leaves, up to 20 cm long, the peduncle included; flowers with 2—3 together, distant. Bracts up to  $6 \times 1$  mm. Calyx silky with long white hairs, tube 2 mm long, its teeth subulate, 4—5 mm long. Corolla rose, pink, purplish or whitish. Standard  $8.5-9 \times 9$  mm, its claw 2.5 mm long, ± silky outside. Wings  $9 \times 4$  mm, its claw about 2 mm long, directed forward and longer than the keel. Keel-petals ca 10 mm long, the 2 mm long claw included. Vexillar stamen free. Pod  $4.5-6 \times 4$  mm, straight, beaked, 7—10 (—12)-seeded, the valves twisted, hairs appressed-ascending or rarely spreading. Seeds brown, mottled, ca  $4 \times 2$  mm.

Tropical continental America and West Indies.

Common, especially on open ground.

Vernacular name: manca mancebu (Leeward Group).

**ARUBA:** along roads in Oranjestad (Stoffers 2147, fl. & fr. Feb.); Santa Cruz (Suringar s.n., fr. [L]; Britton & Shafer 3001, fl. & fr. March); Savaneta (Stoffers 1753, fl. & fr. Jan.; 1908, fl. & fr. Jan.; 1910A, fl. & fr. Jan.; 2147, fl. & fr. Feb.); west of Kivarko (Stoffers 1986, fl. Jan.; 1988, fl. Jan.); seashore near Belashi (Boldingh 6438, fl. & fr. Jan.); Palm Beach (Stoffers 1795, fl. & fr. Dec.); Sivi Sivi (Boldingh 6309, fl. & fr. Dec.; 6328, fl. & fr. Dec.); Fontein Plantation (Stoffers 1702, fl. & fr. Jan.; 1730, fl. & fr. Jan.); Companashi (Arnoldo 139, fl. & fr. Dec.); without loc. (Koolwijk s.n. sub Suringar s.n., fl. & fr. [L]).

**BONAIRE:** Fontein Plantation (Suringar s.n., fr. Feb. [L]); Soebi Blancoe (Arnoldo 377, fl. Jan.); seashore near Fontein (Boldingh 7244, fr. Feb.); near Rincón (Boldingh 7127, fr. Feb.); without loc. (Boldingh 7326, fl.).

**CURAÇAO:** Zuurzak (Suringar s.n., fl. & fr. Jan. [L]); Groot Kwartier (Suringar s.n., fl. & fr. Feb. [L]); Zuijkertuintje (Suringar s.n., fl. & fr. Feb. [L]); Brakkeput (Suringar s.n., fl. & fr. Jan. [L]); Savonet (Suringar s.n., fl. & fr. Jan. [L]; Stoffers 8056, fl. & fr. Dec.); Rif (Stoffers 430, fl. & fr. Oct.; 8003, fl. & fr. Dec.; 8004, fl. & fr. Dec.); diabase hill near Bullen Baai (Stoffers 6127, st. Feb.); Malpais (Stoffers 296, fl. Oct.; 5079, fl. Nov.); Seroe Christoffel, 275 m (de Wilde s.n., fl. & fr. Jan. [L]); ibid. lower part, near Savonet (Stoffers 1273, fl. Dec.); Cas Cora (Stoffers 417, fl. & fr. Oct.); moist soil, Santa Cruz (Britton & Shafer 3001, fl. & fr. March); hofje of Valentijn (Boldingh 5354c, fr. Nov.); Veeris Berg (Boldingh 4724, fl. Oct.); near Westpunt (Boldingh 4927d, fl. & fr. Nov.); near Caracasbaai (Boldingh 4791, fl. & fr. Jan.); Anthonie Berg (Boldingh 5158, fl. & fr. Nov.); Cholome (Stoffers 22, fl. & fr. Sept.); coast near St. Willebrordus (Stoffers 371, fl. & fr. Oct.); Pareira (Stoffers 35, fl. & fr. Sept.); Noordkant Plantation (Stoffers 148, fl. & fr. Oct.); Patattentuin (Burgers 56, fl. & fr. Jan.); Julianadorp (Arnoldo 2203, fl. & fr. Nov.; Arnoldo 2102, fl. Nov.); Hofje Weis Afo (Nagelkerken 104, fl. & fr. March; 143, fl. & fr. March; 158, fl. & fr. March); San Juan (Burgers 150, fl. & fr. Feb.).

**ST. EUSTATIUS:** Fort de Windt (Boldingh 801, fr. June); near Boven, 200 m (Boldingh 1243, fl. & fr. June); White Wall (Boldingh 812, fl. & fr. June; 814, fl. & fr. June); slope of The Quill (Suringar s.n., fl. & fr. Ap. [L]).

**ST. MARTIN:** Airfield (Stoffers 2364, fl. & fr. March).

**var. *littoralis* (Jacq.) Benth.**

BENTHAM in Fl. Brasiliensis 15(1): 48. 1860; GRISEBACH, Fl. Br. W. Ind. Isl. 182. 1859; URBAN, Symb. Ant. 8: 283. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 21. 1920; — *Vicia littoralis* JACQUIN, Enum. Pl. Car. 27. 1760; Sel. Stirp. Am. 206. t. 124. 1763; — *Tephrosia littoralis* PERSOON, Syn. Plant. 2: 329. 1807; ADAMS, Flowering plants of Jamaica 351. 1972; — *Cracca littoralis* RYDBERG, in N. Am. Flora 24(3): 178. 1923.

Hairs on stems, leaves, pedicels and pods spreading.

BONAIRE: Labra Plantation near gate to Slagbaai Plantation (Stoffers 8350, fl. & fr. Jan.).

CURAÇAO: Rooi Beru (Stoffers 1285, fl. & fr. Dec.).

**Tephrosia cathartica** (Sessé & Moç.) Urb.

URBAN, Symb. Ant. 4: 283. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 88. 1909; Fl. Ned. W. Ind. Eil. 217. 1913; URBAN, Symb. Ant. 8: 284. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 233. 1931; — *Galega cathartica* SESSÉ & MOÇINO, Fl. Mexico ed. 2. 175. 1894; — *Cracca cathartica* (SESSÉ & MOÇ.) BRITTON & MILLSPAUGH, Bahama Fl. 181. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 391. 1924.

Perennial herb, somewhat woody at the base; stems up to 40(—50) cm long, erect or decumbent, apressed silky-pubescent. Leaves petiolate, 4—9 cm long, 5—7(—9)-foliolate; leaflets obovate to oblong-lanceolate, retuse or rounded at the apex, cuneate and inaequilateral at the base, strigose on both sides, 1—3 × 0.7—1.5 cm; petiole and rhachis strigose. Stipules subulate, 4—6 mm, persistent. Racemes opposite the leaves, lax, few-flowered, up to c. 15 cm long, the peduncle included; flowers solitary or 2 together along the axis, distant. Bracts subulate, 6—9 × 1 mm. Calyx strigose, tube 2 mm long, its teeth lanceolate to subulate, about 3 mm long. Corolla purple or red-purplish, 7—10 mm long. Standard suborbicular, 6 × 6 mm, the claw 2 mm long, somewhat strigose outside. Wings broadly obliquely lanceolate, 6 mm long, with an acute auricle at the base, the claw 2 mm long, slightly adherent to the keel. Keel-petals 5 mm long, falcate, the claw 2 mm. Pod 3—4 cm long and 4—5 mm wide, straight, strigose, 5—7 seeded, the valves twisted. Seeds brownish, mottled, about 4 × 2.5 mm.

West Indies, Central America, and Colombia.

On open, ruderal grounds.

SABA: The Bottom (Boldsingh 2236, flb. July).

ST. EUSTATIUS: seashore near English Quarter (Boldsingh 1010, fl. & fr. June; Suringar s.n., fl. & fr. May [L]); without loc. (v. Groll-Meyer 158, fl. & fr.; v. Groll 240 H, Feb.).

*Cracca* Bentham, in Bentham & Oersted, Vidensk. Medd. Nat. For. Kjøbenh. 1853: 8. 1853, nom. cons. 3745

Perennial herbs or shrubs. Leaves imparipinnate, leaflets opposite. Stipules subulate to setaceous; stipellae minute. Inflorescence consisting of few to many-flowered, axillary racemes. Bracts setaceous, caducous; bracteoles wanting. Calyx campanulate, 5-cleft; the lobes narrow, nearly equal. Standard orbicular or reniform, reflexed, clawed, without callous and auricles. Wings obovate-oblong, free, transversely rugose. Keel-petals broad, incurved, acute or beaked. Stamens diadelphous, the vexillar stamen free at the base; anthers alike. Ovary sessile; style subcartilagineous, longitudinally bearded on the inner side; stigma capitate.

Ovules many. Pod linear, flat, sessile in the calyx, bi-valved, septate between the seeds, splitting along the sutures.

About 5 species in tropical and warm-temperate America.

**Cracca caribaea** (Jacq.) Benth.

BENTHAM in BENTHAM & OERSTED, Vidensk. Medd. Nat. For. Kjøbenhavn. 1853: 9. 1853; GRISEBACH, Fl. Br. W. Ind. Isl. 183. 1859; Duss, Fl. phan. Ant. franç. 195. 1897; URBAN, Symb. Ant. 4: 285. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 89. 1909; Fl. Ned. W. Ind. Eil. 217. 1913; URBAN, Symb. Ant. 8: 286. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 246. 1931; QUESTEL, Fl. Isl. St. Bartholomew 120. 1941; — *Galega caribaea* JACQUIN, Select. Stirp. Am. Hist. 212. tab. 125. 1763; — *Tephrosia caribaea* DE CANDOLLE, Prodr. 2: 251. 1825; — *Brittonamra caribaea* KUNTZE, Rev. Gen. Plant. 164. 1891; — *Benthamantha caribaea* (JACQ.) KUNTZE, Rev. Gen. Plant. 3(2): 53. 1898; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 394. 1924.

Erect shrub, up to 1(—2) m tall; branches very slender, strigose-canescence, glabrate and straw-coloured in age. Stipules persistent, setaceous, 4—7 mm long. Leaf-rhachis 5—7 cm long, strigose-pilose; petiole 0.5—1.5 cm long; leaflets about sessile (9—)11—15(—17), elliptic, obtuse or acutish and mucronate at the apex, obtuse or rounded and slightly inequilateral at the base, densely strigose to sericeous beneath; stipellae awl-shaped, 1—2 mm long. Racemes axillary, few-flowered, 5—6 cm long; peduncle about as long as the leaves or shorter, slender; flowers solitary or paired along the rhachis, distinct white and commonly purple-veined or pink to purplish, 3—5 mm long. Calyx with a 1—2 mm long tube, the lobes 3—4 mm long, lance-subulate, silky strigose. Standard 8—12 mm wide. Wings nearly as long as the standard, 3—4 mm wide. Keel-petals 12—13 mm long and in the widest portion 5 mm wide. Pod linear, 4—6 cm long and 2.5 mm wide, impressed between the seeds, finely pubescent, the sutures slightly thickened. Seeds 15—20 or more, sub-quadrangular, 2 mm long and ca 1.5 mm wide.

From Porto Rico to Trinidad; Central America, and northern South America.

In thickets and on roadsides at lower elevations.

St. EUSTATIUS: along roads in Oranjestad (Boldingh 920, fr. June); near Mary Glory, 50 m (Boldingh 1151, fr. June).

St. MARTIN: lower part of Experiment (Arnoldo 1268, fr. March); Marigotroad near Marigot (Boldingh 2813, st. Aug.); hills on eastern side of Cul de Sac (Boldingh 3444, fl. & fr. Sept.); lower part of Mount Paradise (Boldingh 3290, st. Sept.).

**Indigofera** Linnaeus, Spec. Plant. 751. 1753

Annual or perennial herbs or small shrubs; hairs often attached by the middle or sometimes simple. Leaves alternate, imparipinnate, rarely 1- or 3-foliate, or simple, very rarely paripinnate with the rhachis ending in a point; leaflets

opposite or alternate. Stipules small, setaceous, not adnate to the petiole; stipellae present or wanting. Inflorescence consisting of axillary racemes or spikes; bracts small, caducous; bracteoles wanting. Calyx small, 5-lobed or 5-toothed, the lobes or teeth equal or unequal. Corolla usually pink, red, or purple-variegated. Standard obovate, oblong or orbicular, sessile or unguiculate. Wings oblong, adherent to the keel. Keel erect or slightly curved, obliquely oblong, each keel-petal usually with a lateral spur. Stamens 10, the vexillar stamen free; anthers uniform, gland-tipped or with pubescent connective. Ovary sessile or very short stipitate; style short, filiform; stigma terminal, small, capitate. Ovules 1 to numerous. Pod dehiscent, cylindrical, tetragonal or flattened, oblong to linear, straight or curved, septate between the seeds. Seeds globose or angled.

About 700 species in tropical and subtropical regions.

**Key to the genera:**

1. Pod sickle-shaped, 3—6-seeded, 1—1.5 cm long; leaflets strigose on both sides, often glabrescent above . . . . . *I. suffruticosa*  
Pod straight or slightly curved, 8—15-seeded, 2.5—3 cm long; leaflets usually glabrous above, strigulose beneath . . . . . *I. tinctoria*

***Indigofera suffruticosa* Mill.**

MILLER, Gard. Dict. ed. 8. 2. 1768; URBAN, Symb. Ant. 4: 282. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 88. 1909; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 219. 1909; BOLDINGH, Fl. Ned. W. Ind. Eil. 216. 1913; Fl. D.W. Ind. Isl. 2: 40. 1914; BRITTON & MILLSPAUGH, Bahama Fl. 180. 1920; URBAN, Symb. Ant. 8: 280. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 16. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 389. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 247. 1931; QUESTEL, Fl. Isl. St. Bartholomew 119. 1941; LEON & ALAIN, Fl. Cuba 2: 297. 1951; ARNOLDO, Zakflora 58. 1954; Zakflora 142. 1964; GOODING *et al.*, Fl. Barbados 208. 1965; ADAMS, Flowering plants of Jamaica 352. 1972; — *Indigofera anil* LINNAEUS, Mant. 2: 272. 1771; GRISEBACH, Fl. Br. W. Ind. Isl. 181. 1959; Duss, Fl. phan. Ant. franç. 194. 1897.

A much branched shrub, up to 1.5 m tall; stems and branchlets angled and grooved, white-strigose. Leaves up to 12 cm long, 9—15-foliate; leaflets opposite, oblong, obovate or oblanceolate, obtuse or acute and mucronate at the apex, cuneate at the base, strigose on both sides, especially beneath, or glabrate above, 2—3 × 0.5—0.9 cm. Stipules setaceous, 3 mm long. Racemes dense, shorter than the leaves, 2—5 cm long; pedicels 1 mm long. Calyx with 1.5 mm long cup, strigose, the teeth triangular, acuminate, nearly as long as the tube. Corolla vermillion to light crimson. Standard sessile, broadly elliptic to obovate, 3.5—5 mm long, pubescent outside. Wings slightly shorter than the keel. Keel slightly shorter than the standard, the spur about twice as long as wide. Stamens with filaments c. 3 mm long; anthers oblong, 1 mm long, apiculate. Ovary linear, 3.5 mm long; style curved, 2 mm long; stigma capitate.

Pod oblong-linear, subterete, somewhat angular, strongly curved to sickle-shaped, 1—1.5 cm long and 2 mm thick, thickened along both margins, strigose when young, glabrous afterwards. Seeds 3—8, cylindrical or somewhat angled, terete, 1.5—2.2 mm long with a depression at the scar attachment.

Tropical and subtropical America; often cultivated; introduced into tropical Asia and Africa.

Common shrub at lower altitudes.

Vernacular names: yerba di seis (Leeward Group).  
wild indigo (Windward Group).

**ARUBA:** seashore near Savaneta (Boldingh 6560, fl. Jan.); calcareous soil near Oranjestad (Boldingh 6235, fl. & fr. Dec.); Oranjestad (Arnoldo 174, fl. & fr. Dec.; Stoffers 2140, fl. & fr. Feb.); west of Kivarko (Stoffers 1977, fl. & fr. Jan.); without loc. (Boldingh s.n., fl. & fr.; Koolwijk s.n. sub Suringar s.n., Feb. [L]).

**BONAIRE:** calcareous plateau of Seroe Montagne (Boldingh 7409, fl. & fr. Feb.); vicinity of Rincón (Boldingh 7026, fl. & fr. Feb.); slope of Brandaris (Suringar s.n., fl. Feb. [L]).

**CURAÇAO:** Seroe Christoffel (Stoffers 1222, fl. Dec.); calcareous soil near Knip (Boldingh 5565a, fl. Dec.); along track from Savonet to Seroe Gracia (Stoffers 8051, fl. & fr. Dec.); hills near Barber (Boldingh 5183, st.); Veeris Berg (Boldingh 4722, fl. Oct.); Hofje Weis Afo (Nagelkerken 144, fr. March); Hofje of Jan Thiel (Nagelkerken 378, flb. Jan.); Tafelberg Santa Barbara (Stoffers 5099, flb. Nov.); hills of Knip (Stoffers 1156, fl. & fr. Dec.); Brakkeput (Suringar s.n., fl. & fr. Jan. [L]).

**SABA:** between The Bottom and Mary's Point, 100—200 m (Boldingh 1524, fl. & fr. July); gut near Devilshand (Boldingh 2077a, flb.); St. Giles (Boldingh 1867, st. July); along roads, 200—300 m (Boldingh 1709, fl. & fr. July); road to Windward-side (Arnoldo 704, fl. & fr. Aug.; Stoffers 4624, fl. March); between Hellsgate and Mary's Point (Boldingh 2047, fl. & fr. July); Ladder Gut, 100—200 m (Stoffers 2784, fl. & fr. Ap.; Suringar s.n., fl. & fr. Ap. [L]); along the road from The Bottom to Crispine, 220—350 m (Stoffers 2969, fl. & fr. Ap.); Compagnie's Gut (Stoffers 2999, fl. & fr. Ap.); without loc. (Burgers 481, fr. Feb.).

**ST. EUSTATIUS:** in garden in Oranjestad (Boldingh 73, fl. & fr. May); along roads near English Quarter (Boldingh 1001, fl. & fr. June); Bengalen (Boldingh 609, fl. & fr. June); Fairplay (Suringar s.n., fl. Ap. [L]); Cultuurvlakte (Suringar s.n., fl. & fr. Ap. [L]); western slope of The Quill (Suringar s.n., fl. & fr. Ap. [L]); without loc. (v. Groll-Meyer 219, fl. & fr.).

**ST. MARTIN:** along roads near Philipsburg (Boldingh 2528, fr. Aug.); between Simson Bay and Simson Bay Lagoon (Stoffers 2510, fl. & fr. March).

### **Indigofera tinctoria L.**

**LINNAEUS**, Spec. Plant. 751. 1753; **GRISEBACH**, Fl. Br. W. Ind. Isl. 181. 1859; **Duss**, Fl. phan. Ant. franç. 194. 1897; **BOLDINGH**, Fl. Ned. W. Ind. Eil. 216. 1913; Fl. D.W. Ind. Isl. 2: 40. 1914; **URBAN**, Symb. Ant. 8: 280. 1920; **FAWCETT & RENDLE**, Fl. Jamaica 4(2): 14, fig. 3. 1920; **BRITTON & WILSON**, Sci. Surv. Porto Rico & Virgin Isl. 5: 389. 1924; **QUESTEL**, Fl. Isl. St. Bartholomew 119. 1941; **LEON & ALAIN**, Fl. Cuba 2: 298. 1951;

ARNOLDO, Zakflora 59. 1954; Zakflora 142. 1964; GOODING *et al.*, Fl. Barbados 209. 1965; ADAMS, Flowering plants of Jamaica 352. 1972.

Shrub, up to 1.5 m tall; stems terete or somewhat angled, white-strigulose in the younger parts, glabrescent in age. Leaves up to 7 cm long, the 1—2 cm long petiole included; leaflets 9—11(—15), opposite, obovate or oval, rounded and mucronate at the apex, obtuse to acute at the base, glabrous above, strigillose beneath, 1—2 cm long and 0.2—0.8 cm wide. Stipules subulate-setaceous, 2—2.5 mm long, deciduous; stipellae setaceous, minute. Racemes 3—5(—7) cm long; pedicels about 1 mm long. Calyx with a small, 1 mm long cup and triangular, unequal, 3—4 mm long teeth. Corolla pink. Standard orbicular, 6—7 × 5.5—6.5 mm. Wings oblong-spathulate, 6 × 2 mm, clawed. Keel-petals oblanceolate, greenish, 6 × 2 mm, ciliate at the apex. Stamens with 4 mm long filaments and oblong, 0.4 mm long anthers. Ovary linear, 4 mm long; style curved, 2 mm long; stigma capitate. Pod linear-cylindric, straight or slightly curved, thickened along both margins, strigillose and more or less glabrescent, 2.5—3(—3.5) cm long. Seeds (6)—8—12, cylindrical, terete or angled, about 2 mm long and 1.5 mm thick, without a depression at the scar of attachment.

Native of the Old World tropics; formerly cultivated in the West Indies and now naturalized in most islands.

BONAIRE: Guatemala Plantation (Stoffers s.n., fl. & fr. Jan.).

CURAÇAO: Hofje Weis Afo (Nagelkerken 182, fr. May); slope of northern part of Ronde Klip (Boldinck 5334, fr. Nov.); Mundo Nobo (Arnoldo 1189, fl. & fr. Oct.).

ST. MARTIN: Airfield (Stoffers 2365, fl. & fr. March); Naked Boy Hill (Stoffers 2705, flb. March; 2711, fr. March); Lemoentuin Juliana (Stoffers 2238, fr. March); Simson Bay (Arnoldo 3427, fl. & fr. Jan.); without loc. (Arnoldo 3165, fl. & fr. Dec.).

**Dalea** Linnaeus, Hort. Cliff. 363, t. 22. 1737; Spec. Plant. 764. 1753

Annual or perennial herbs or shrubs with more or less glandular-dotted stems, leaves and calyces. Leaves imparipinnately compound. Stipules and stipellae present, often gland-like. Inflorescence consisting of terminal or lateral racemes or spikes. Calyx with a 10-ribbed, campanulate tube and 5 unequal or subequal teeth. Standard clawed and most common with a cordate or reniform blade. Wings and keel-petals mostly exceeding the standard in length, adnate by their claws to the lower part of the stamen-tube. Stamens diadelphous, 10 or 9, the filament-tube usually split in the upper side. Ovary short-stipitate; style subulate; stigma capitate. Ovules 1—3. Pod indehiscent, obliquely ovoid or semi-reniform, mostly included in the calyx.

A large genus of an uncertain number of species; natives of America.

**Dalea carthaginensis** (Jacq.) Macbr.

MACBRIDE, Field Mus. Publ. Bot. 18(3): 375. 1943; R. T. CLAUSEN, Bull. Torr. Bot. Club

73: 572. 1946; ARNOLDO, Zakflora 59. 1954; Zakflora 139. 1964; — *Psoralia carthaginensis* JACQUIN, Enum. Syst. Plant. Car. 27. 1762; — *Dalea domingensis* DECANDOLLE, Prodr. 2: 246. 1825; URBAN, Symb. Ant. 4: 283. 1905; Symb. Ant. 8: 282. 1920; LEON & ALAIN, Fl. Cuba 2: 300. 1951; — *Dalea phymatodes* WILLDENOW, Spec. Plant. 3: 1338. 1797; BOLDINGH, Fl. Ned. W. Ind. Eil. 216. 1913; Fl. D.W. Ind. Isl. 2: 40. 1914.

Strongly branched shrub, up to 2 m tall with branches, leaves and calyces glandular, black dotted; branches ascending, slender, glabrous or slightly pubescent in the younger parts. Leaves (5—)7—13(—21)-foliolate, the rhachis 2—3.5 cm long, more or less winged, glabrous or sparsely pubescent; leaflets oblong, elliptic or obovate, rounded or retuse at the apex, rounded or obtuse at the base, 4—8 × 2—5 mm, terminal-leaflet somewhat larger than the lateral ones, glabrous, glandular black dotted beneath; petiole up to 1 cm long. Stipules subulate short; stipellae gland-like. Inflorescence consisting of axillary and terminal, dense, oblong, 1—2 cm long racemes. Flowers short-pedicellate to sessile, purple, rose or white, becoming brownish-purple. Bracts lanceolate-ovate, short-acuminate, 4—5 × 1—1.5 mm, pilose, deciduous. Calyx-tube 2—3 mm long, campanulate, 10-ribbed with a row of yellow glands in the intervals, pilose, especially on the ribs, calyx-lobes filiform or linear and acute at the apex, 2—5(—7) mm long, hooked, curved or straight at the top. Standard broad-cordate, 4 × 3 mm, the claw 2 mm long. Wings 5 × 3.5 mm, auriculate, the claw 2 mm long. Keel-petals connate, blade 6 mm long, the claw 5 mm long. Stamens 5—7 mm long. Ovary villous above, 1.5 mm long; style slender, 8 mm long, villous; stigma small. Pod included in the calyx, villous and glandular dotted above, glabrous below. Seeds semi-reniform, 2 × 2 mm.

Southern Florida, Gulf slope of Mexico, and Central America; Pacific slope of Central America in El Salvador, Caribbean slope of northern South America, Cuba, Hispaniola, and Porto Rico.

#### var. *carthaginensis*

Leaflets 5—21, averaging 11 or more; calyx-teeth not hooked; plants glabrous or sparsely pubescent.

In woodlands and thickets.

CURAÇAO: Savonet, near goat-trap (Stoffers 1288, fl. Dec.); road to Soto (Arnoldo 1412, fl. & fr. Oct.); Caracas Baai, rocky hillsides (Britton & Shafer 3143, fl. & fr. March); Seroe Christoffel, 200 m (Arnoldo 1781, fl. & fr. Dec.; Stoffers 1204, fl. & fr. Nov.; 1225, fl. & fr. Dec.); hills near Barber (Boldingh 5178, st. Nov.); limestone terrace above Rif (Stoffers 6102, fl. Feb.); hills between Santa Cruz and Seroe Christoffel (Boldingh 5605, st. Nov.); near Santa Maria (Boldingh s.n., fl. & fr. Nov.).

*Sesbania* Scopoli, Introductio 308. 1777, nom. cons. 3747

Shrubs or small trees, often producing a dark gummy juice when the bark is cut; indument of simple, white or golden hairs. Leaves abruptly pinnate,

petiolate; the rhachis canaliculate above; leaflets usually more than 10 pairs, entire. Stipules not deeply lobed at the base and never spurred; stipellae minute or wanting. Inflorescence consisting of axillary, lax racemes. Bracts and bracteoles present, but often caducous. Calyx campanulate, 5-toothed, not arranged in 2 lips. Corolla glabrous. Standard roundish to ovate, unguiculate and provided with 2 appendages. Wings clawed, the blade transversely ribbed, oblong, sickle-shaped and usually toothed or hooked at the base. Keel-petals rounded below, rounded or broadly pointed at the top, toothed at the base. Stamens 10, diadelphous, the vexillary completely free; filament-sheath longer than the free parts of the filaments, which are curved upwards and not dilated at the top; anthers uniform or the alternate a little longer. Ovary usually stipitate, glabrous or rarely pilose; style glabrous or rarely pubescent near the top; stigma small, globose or ovoid. Pod long-linear, compressed, 2-valved or sometimes scarcely opening, with transverse partitions between the seeds. Seeds ellipsoid.

Over 50 species in the tropics and subtropics.

#### Key to the species:

- Flowers large (5—)6—8(—10) cm long, curved in bud; leaflets 12—20 pairs oblong, 2—4 cm long, 7—12 mm wide; usually a small tree *S. grandiflora*  
Flowers smaller, up to 2.5 cm long, more or less straight in bud, shrubs 2
- Leaflets 12—25 pairs; flowers 8—9 mm long; plant silky pubescent on stems and lower surface of leaves; prickles wanting . . . . *S. sericea*  
Leaflets 20—50 pairs; flowers 10—12 mm long; plant glabrous or thinly pubescent; branches with short prickles . . . . . *S. bispinosa*

#### ***Sesbania bispinosa* (Jacq.) W. F. Wight**

W. F. WIGHT, U.S. Dept. Agr. Bur. Pl. Ind. Bull. 137: 15, no. 21797. 1909; FAWCETT & RENDLE, Fl. Jamaica 4(2): 24. 1920; LEON & ALAIN, Fl. Cuba 2: 310. 1951; ARNOLDO, Zakflora 46, fig. 44. 1954; Zakflora 144, fig. 44. 1964; GOODING *et al.*, Fl. Barbados 216. 1965; ADAMS, Flowering plants of Jamaica 354. 1972; — *Sesbania aculeata* (WILLDENOW) POIRET in LAMARCK, Encycl. 7: 128. 1806 ("*Sesban aculeatus*"); PERSOON, Syn. Plant. 2: 316. 1807; GRISEBACH, Fl. Br. W. Ind. Isl. 184. 1859; BOLDINGH, Fl. Ned. W. Ind. Eil. 218. 1913; Fl. D.W. Ind. Isl. 2: 41. 1914; — *Coronilla aculeata* WILLDENOW, Spec. Plant. 3: 1147. 1802.

Erect, annual or biennial herb, somewhat woody at the base, 1—2.5 m tall; stems glabrous or sparsely pilose when young, usually sparsely aculeate. Leaf-rhachis up to 35 cm long, sparsely pilose but lateron glabrous, aculeate on the lower side towards the base; leaflets (25—)35—50(—55) pairs, oblong-linear, 10—20 × 1.5—4.5 mm, sparsely pilose on margin and midvein beneath, lateron glabrous. Stipules caducous, linear-lanceolate, erect, pilose, 5—10 mm long. Racemes 2—4(—12)-flowered, glabrous or with few hairs when young; rhachis up to 12 cm long, including the c. 4 cm long, aculeate peduncle; pedicels 6—10 mm long. Calyx c. 4 mm long, hairy within the margin, the teeth 1 mm long,

triangular, acuminate. Corolla yellow. Standard blackish-purple speckled, about  $10 \times 10$  mm, truncate at the apex, appendages wedge-shaped, the claw 3 mm long. Wings toothed but not hooked at the base,  $9 \times 2-3$  mm, the claw 3 mm long; keel-petals 7 mm long and 2 mm wide at the base and 4-5 mm wide near the apex, the basal tooth horizontal or hooked and pointing downwards, the claw 5 mm long. Filaments united into a 9-12 mm long sheath, the free parts 2-4 mm long; anthers 0.5 mm long. Ovary glabrous; style 2-3 mm long, glabrous. Pod curved, beaked, up to 30 cm long and 3 mm wide, 35-40-seeded; septa c. 5 mm apart. Seeds brown, not mottled,  $3 \times 1.5 \times 1.1$  mm, elliptic in cross-section.

Native of the Old World tropics; introduced into America.

CURAÇAO: Malpais (Britton & Shafer 3120, fl. & fr. March); hofje of Barber (Boldinh 5219, fl. Dec.).

**Sesbania sericea** (Willd.) Link

LINK, Enum. Hort. Berol. 2: 244. 1822; GRISEBACH, Fl. Br. W. Ind. Isl. 184. 1859; Duss, Fl. phan. Ant. franç. 196. 1897; URBAN, Symb. Ant. 4: 286. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 89. 1909; Fl. Ned. W. Ind. Eil. 218. 1913; FAWCETT & RENDLE, Fl. Jamaica 4(2): 24. 1920; URBAN, Symb. Ant. 8: 287. 1920; LEON & ALAIN, Fl. Cuba 2: 311. 1951; — *Coronilla sericea* WILLDENOW, Enum. Hort. Berol. 773. 1809; — *Sesban sericea* (WILLD.) DE CANDOLLE, Prodr. 2: 266. 1825; BRITTON & MILLSPAUGH, Bahama Fl. 182. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 395. 1924; — *Agati sericea* HITCHCOCK, Rep. Mo. Bot. Gard. 4: 75. 1893.

Annual, slender, shrubby herb, up to 3 m tall, pubescent throughout except for the flowers and the fruits, silky when young; stems angled without prickles. Leaf-rhachis 10-15 cm long, sometimes minutely aculeate near the base; leaflets in 12-25 pairs, oblong-linear, obtuse and mucronate at the apex, more or less obtuse at the base,  $10-20 \times 3-5$  mm, glabrous or nearly so above, irritable and silky beneath. Stipules caducous, lanceolate, erect, 5 mm long. Racemes slender, few-flowered; rhachis softly silky or pilose, up to 4.5 cm long including the up to 2 cm long peduncle; pedicels thread-like, up to 5 mm long. Calyx glabrous, except at the base and the margins; the tube 3-4 mm long, its teeth c. 1 mm long, triangular with a subulate tip. Corolla yellow. Standard oblong, emarginate at the apex and cordate at the base, blackish-purple dotted,  $8-10 \times c. 6$  mm, appendages wedge-shaped, truncate at the apex, the claw 2 mm long. Wings  $5-6 \times 3-3.5$  mm, not hooked at the base, the claw 2.5 mm. Keel-petals incurved  $3-4 \times 4-5$  mm, the basal tooth obscure, the claw 4-5 mm long. Filament-sheath 6-8 mm, free parts 2-3 mm, incurved; anthers 0.4 mm long. Ovary glabrous; style 2 mm long, glabrous. Pod straight or slightly curved, not tortulose, beaked, 10-20 cm long and 3 mm wide. Seeds 15-30, the septa 5 mm apart. Seeds brown,  $3 \times 2 \times 1.5$  mm, minutely spotted.

Africa and Ceylon; probably introduced into the West Indies and northern South America.

Brackish swamps and sandy saline margins.

St. MARTIN: near Simson Bay Lagoon (Boldingh 3037, st. Aug.); Cole Bay (Coll. George sub Boldingh 2520, st. Aug.).

**Sesbania grandiflora (L.) Pers.**

PERSOON, Synops. Plant. 2: 316. 1807; URBAN, Symb. Ant. 4: 286. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 89. 1909; Fl. Ned. W. Ind. Eil. 218. 1913; Fl. D.W. Ind. Isl. 2: 41. 1914; URBAN, Symb. Ant. 8: 287. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 24. 1920; GOODING *et al.*, Fl. Barbados 216. 1965; ADAMS, Flowering plants of Jamaica 353. 1972; — *Robinia grandiflora* LINNAEUS, Spec. Plant. 722. 1753; — *Aeschynomene grandiflora* LINNAEUS, Spec. Plant. ed. 2. 1060. 1763; — *Agati grandiflora* (L.) DESVAUX, Journ. Bot. 1: 120. 1813; GRISEBACH, Fl. Br. W. Ind. Isl. 183. 1859; DUSS, Fl. phan. Ant. franç. 196. 1897; BRITTON & MILLSPAUGH, Bahama Fl. 182. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 396. 1924.

Deciduous small tree, up to 5 m tall with thin crown of few branches. Leaves 15—35 cm long; leaflets 12—22 pairs, oblong, 2—4 × 0.7—1.2 cm. Racemes short, 2-flowered. Flower buds curved. Calyx campanulate, slightly 2-lobed with shallow teeth, 2—2.5 cm long, whitish. Corolla crimson, pink or white, fleshy, 7—8 cm; standard curved back. Stamens diadelphous, the vexillar free; filaments 3.5—6.0 cm long, curved for most of its length. Pod linear, compressed, up to 30 cm or more long and 4—5 mm wide, slightly constricted between the seeds, the septa 9—11 mm apart, the margin swollen.

Native of India or Australia; cultivated in the tropics as an ornamental.

Vernacular names: tiger tongue (Windward Group).

ARUBA: without loc. (Koolwijk s.n. sub Suringar s.n., fl. & fr. Jan. [L]); San Nicolas (Arnoldo 214, fl. Dec.).

St. EUSTATIUS: without loc. (v. Groll-Meyer 290, fl.; 291, fl.; 193 H, fl.).

**Cajanus DC., Catal. Monsp. 85. 1813, nom. conserv. 3892**

*Cajan* Adanson, Fam. 2: 326, 529. 1763.

Shrubs or subshrubs. Leaves pinnately 3-foliolate; leaflets with minute resinous dots on the lower surface. Stipules lanceolate, deciduous; stipellae minute. Inflorescence consisting of few-flowered, axillary racemes. Bracts caducous; bracteoles wanting. Calyx campanulate, 5-lobed; the upper 2 lobes partly connate, giving the impression of one, 2-dentate lobe. Standard orbicular, clawed, reflexed, bicallous and bi-auriculate at the base. Wings obliquely obovate. Keel obliquely obovate to semi-orbicular, obtuse, incurved at the apex. Stamens 10, diadelphous, vexillar stamen free. Ovary subsessile, elongate; style thickened above the middle; flattened below the small, capitate terminal stigma. Ovules many. Pod linear to oblong, with a long, persistent acumen, bi-valved, compressed, obliquely impressed between the seeds. Seeds slightly compressed, orbicular.

A genus of 2 or 3 species; widely cultivated and subs spontaneous in tropical regions.

**Cajanus cajan** (L.) Millsp.

MILLSPAUGH, Publ. Field Columb. Mus. Bot. 2: 53. 1900; FAWCETT & RENDLE, Fl. Jamaica 4(2): 71. 1920; BRITTON & MILLSPAUGH, Bahama Fl. 192. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 414. 1924; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 35. 1954; GOODING *et al.*, Fl. Barbados 197. 1965; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 154. 1971; ADAMS, Flowering plants of Jamaica 354. 1972; — *Cytisus cajan* LINNAEUS, Spec. Plant. 739. 1753; — *Cajanus indicus* SPRENGEL, Syst. 3: 248. 1826; GRISBACH, Fl. Br. W. Ind. Isl. 191. 1859; Duss, Fl. phan. Ant. franç. 205. 1897; URBAN, Symb. Ant. 4: 306. 1905; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 215. 1909; BOLDINGH, Fl. D.W. Ind. Isl. 1: 96. 1909; Fl. Ned. W. Ind. Eil. 225. 1913; Fl. D.W. Ind. Isl. 2: 43. 1914; URBAN, Symb. Ant. 8: 309. 1920; QUESTEL, Fl. Isl. St. Bartholomew 123. 1941; LEON & ALAIN, Fl. Cuba 2: 342, fig. 140B. 1951.

Undershrub or shrub, up to 2.5 m tall; branches woody, ribbed, with short golden appressed or slightly spreading silky pubescent. Leaves alternate; leaflets narrowly elliptic, oblong or lanceolate, acute or acuminate at the apex, cuneate at the base, dark green above, greyish or silvery grey-green and with minute resinous dots underneath, velvety at both sides,  $4\text{--}9 \times 1\text{--}3$  cm; petiolules 2 mm long; petiole 2—4 cm long. Stipules 3—4 mm long; stipellae minute. Racemes as long as the subtending leaves or longer; peduncle and pedicels brown-tomentose; pedicels up to 1 cm long. Bracts deciduous, lanceolate, 4—7 mm long and 2—5 mm wide. Flowers yellow or yellow and orange, often with a reddish tinge especially on the back of the standard. Calyx brown-tomentose, with 5 mm long tube and 4—7 mm long lobes, lowest lobe longer than the rest. Standard orbicular, emarginate, 12—15  $\times$  12—15 mm, the claw 3—4 mm long; callus running up from the claw and branching, the outer passing into the auricle. Wings 12—14  $\times$  6 mm, auriculate, the claw 4 mm long. Keel 11  $\times$  5 mm, the claw 5 mm long. Stamens: filaments nearly 2 cm long, incurved; anthers 1 mm long. Pod linear-oblong, puberulous, usually 5-seeded, obliquely impressed between the seeds, 5—7  $\times$  1 cm, straw-coloured and often streaked purplish-black; beak 0.5—1 cm long. Seeds whitish, somewhat flattened, 5 mm long and 4 mm thick.

Distributed as the genus.

Cultivated in all islands of the Netherlands Antilles; subs spontaneous at moist places.

Vernacular names: wandu (Leeward Group).  
pigeon pea (Windward Group).

**CURAÇAO:** without loc. (Aschenberg s.n., fl.).

**SABA:** Booby Hill, cultivated (Arnoldo 791, fl. & fr. Aug.); Hellsgate (Boldingham 1696, fr. July); The Bottom (Stoffers 2907, fl. & fr. Ap.); Rendez-Vous (Stoffers 4252, fl. & fr. Aug.).

**ST. EUSTATIUS:** without loc. (v. Groll-Meyer 55, fl., 210 H, fl.).

**Rhynchosia** Loureiro, Fl. Cochinch. 460. 1790, nom. conserv. 3897

Twining herbs or undershrubs, with minute yellow glands. Leaves alternate, 3-foliolate, long-petiolate; leaflets with minute yellow or brown glands beneath. Inflorescence consisting of axillary racemes. Bracts deciduous; bracteoles wanting. Calyx campanulate, 4- or 5-fid, the two superior lobes higher connate. Standard obovate or roundish, clawed, bi-auriculate at the base. Wings narrowly oblong, auriculate. Keel-petals broader than the wings, incurved at the apex, obtuse. Stamens diadelphous, the vexillar stamen free; anthers uniform. Ovary subsessile; style filiform, glabrous; stigma small, terminal. Pod compressed, sessile, linear or oblong, dehiscent, shortly beaked. Seeds 2 or 1, orbiculate or reniform, compressed.

About 200 species in the tropics and subtropics.

**K e y to the species:**

1. Calyx about as long as the corolla; upper 2 segments of the calyx united beyond the middle . . . . . *R. reticulata*  
Calyx much shorter than the corolla; upper two segments of the calyx not united beyond the middle . . . . . *R. minima*

**Rhynchosia minima** (L.) DC.

DECANDOLLE, Prodr. 2: 385. 1825; GRISEBACH, Fl. Br. W. Ind. Isl. 190. 1859; DUSS, Fl. phan. Ant. franç. 205. 1897; URBAN, Symb. Ant. 4: 307. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 96. 1909; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 222. 1909; BOLDINGH, Fl. Ned. W. Ind. Eil. 226. 1913; Fl. D.W. Ind. Isl. 2: 43. 1914; URBAN, Symb. Ant. 8: 310. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 73, fig. 22. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 229. 1931; QUESTEL, Fl. Isl. St. Bartholomew 123. 1941; LEON & ALAIN, Fl. Cuba 2: 344. 1951; ARNOLDO, Zakflora 100, fig. 120. 1954; Zakflora 144, fig. 120. 1964; GOODING *et al.*, Fl. Barbados 215. 1965; ADAMS, Flowering plants of Jamaica 356. 1972; — *Dolichos minimus* LINNAEUS, Spec. Plant. 726. 1753; — *Dolicholus minimus* MEDIKUS, Vorles. Chur. Phys. Ges. 2: 354. 1787; BRITTON & MILLSbaugh, Bahama Fl. 193. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 415. 1924.

Herbs; stems climbing or rarely trailing, slender, angled, puberulous or glabrescent. Leaves petiolate; petiole 2—6 cm long, tomentose to puberulous; leaflets ovate-rhomboid, the lateral obliquous, obtuse or acute at the apex, truncate to broadly wedge-shaped at the base, 1—3 × 1—2.5 cm, tomentose or puberulous on both sides, brown-yellow dots beneath and sometimes also on the upper surface. Stipules lanceolate, 2—3 mm long; stipellae narrowly lanceolate, 1—1.5 mm long. Racemes lax-flowered, up to 10 cm long, puberulous; pedicels 1—2 mm long. Bracts lanceolate, small. Flowers distant, yellow. Calyx puberulous and with yellow glands, the tube 1—1.5 mm long, 5-fid; upper two lanceolate, 1—1.5 mm long, lateral two somewhat shorter and broader, the lower longest, 1.5—2 mm long, narrowly lanceolate, acuminate. Standard obovate, 5.5—6 mm long, strongly red-purple veined, the auricles at

the base slightly inflexed, the claw  $\pm$  1 mm long, wedge-shaped, puberulous, and with yellow glands. Wings linear-oblong, truncate at the base, 3.5 mm long, the claw 1.5 mm long. Keel-petals oblong-elliptic, rounded at the apex, truncate-wedge-shaped at the base. Anthers small. Pod oblong, narrowed towards the base, slightly curved, and somewhat impressed between the seeds, up to 1.5 cm long and 0.5 cm wide, black, minutely puberulous. Seeds 2, ellipsoidal, 2.5—3 mm long, black or brown.

Tropics.

Very common weed.

Vernacular names: yerba di lagadishi (Leeward Group).

**ARUBA:** Tankie Leendert (Boldingh 6254, fl. & fr. Dec.); in garden in Savaneta (Stoffers 1911, fl. Jan.); near Oranjestad (Stoffers 2044, fl. Feb.; 2059, fl. & fr. Feb.; 2087, fl. & fr. Feb.); Playa (Arnoldo 169, fl. Dec.); Palm Beach (Stoffers 1798, fl. & fr. Jan.); Fontein (Stoffers 1701, fl. Jan.; Suringar s.n., fl. & fr. Feb. [L]); along road near Seroe Pretoe (Stoffers 1675, fl. Jan.); Savaneta (Stoffers 1751, fl. & fr. Jan.); near Noord (Stoffers 1536, fl. Jan.); without loc. (Boldingh s.n., fl. & fr.).

**BONAIRE:** Slagbaai (Stoffers 980, flb. Dec.); Airfield (Stoffers 774, fl. Nov.; 788, fl. Nov.); Rincón (Boldingh 7104, fl. & fr. Jan.; 7152A, fl. & fr. Jan.; Suringar s.n., fr. Feb. [L]); near Rooi Pagaai (Stoffers 515, fl. Nov.); Fontein (Suringar s.n., fl. & fr. Feb. [L]).

**CURAÇAO:** Ronde Klip (Stoffers 1269, fl. Dec.); Klein Santa Marta (Stoffers 89, flb. Sept.); Grote Berg (Stoffers 337, fl. & fr. Oct.); Santa Catharina (Stoffers 182, fl. & fr. Oct.); Noordkant Plantation (Stoffers 181, fl. & fr. Oct.); Santa Marta (Britton & Shafer 2977, fr. March); Patattentuin (Burgers 65, fl. & fr. May); Cas Corá (Burgers 83, fl. Jan.; Stoffers 251, fl. Oct.; 257, fl. & fr. Oct.); road near Wacao (Boldingh 5105 F, fl. & fr. Nov.); near Caracas Baai (Boldingh 4801, fl. & fr.; 4794, fl. Jan.); road from Cas Chiquito to Veerisberg (Boldingh 4714, fl. & fr. Oct.); hofje of Knip (Boldingh 5535, fl. Dec.); Mundo Nobo (Arnoldo 1186, fl. & fr. Oct.); Santa Barbara (Stoffers 413, fl. Oct.); Piscadera Baai (de Wilde 39A, fl. & fr. Dec.); Gasparito (Suringar s.n., fl. & fr. Jan. [L]); Fort Nassau (Suringar s.n., fl. Jan. [L]).

**SABA:** between The Bottom & Mary's Point, 100—200 m (Boldingh 1504, fl. July).

**ST. EUSTATIUS:** top of The Quill, 450 m (Boldingh 354, st. June); slope of The Quill, west-side (Suringar s.n., fl. Ap. [L]); Cultuurvlakte (Suringar s.n., fr. Ap. [L]; id. fl. May [L]).

**ST. MARTIN:** Airfield (Stoffers 2399, fl. & fr. March; 2403, fl. & fr. March).

#### **Rhynchosia reticulata** (Sw.) DC.

**DECANDOLLE,** Prodr. 2: 385. 1825; **GRISEBACH**, Fl. Br. W. Ind. Isl. 190. 1859; **URBAN**, Symb. Ant. 4: 307. 1905; **BOLDINGH**, Fl. D.W. Ind. Isl. 1: 97. 1909; Fl. Ned. W. Ind. Eil. 226. 1913; **URBAN**, Symb. Ant. 8: 309. 1920; **FAWCETT & RENDLE**, Fl. Jamaica 4(2): 72. 1920; **QUESTEL**, Fl. Isl. St. Bartholomew 123. 1941; **LEON & ALAIN**, Fl. Cuba 2: 344. 1951; **ADAMS**, Flowering plants of Jamaica 355. 1972; — *Glycine reticulata* SWARTZ,

Prodr. Veg. Ind. Occ. 105. 1788; Fl. Ind. Occ. 1251. 1806; — *Dolicholus reticulatus* (Sw.) MILLSPAUGH, Field Columb. Mus. Bot. Ser. 2: 53. 1900; BRITTON & MILLSPAUGH, Bahama Fl. 193. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 415. 1924.

Herb; stems slender, twining, somewhat woody, tomentose or villous. Leaves petiolate; petioles up to 5 cm long; leaflets variable in shape and size, ovate to lanceolate or elliptic-rhomboid, the lateral ones obliquous, acute or obtuse at the apex, rounded to truncate or slightly cordate at the base, 2—9 cm long and 1—5 cm wide, softly tomentose on both sides, prominently reticulate-veined and with yellow dots beneath. Stipules ovate, about 5 mm long, more or less persistent; stipellae setaceous, 1 mm long. Racemes up to 10 cm long, many flowered, tomentose; the flowers distant. Bracts lanceolate, 1.5 mm long; pedicels 3—5 mm long. Calyx about as long as the corolla; tube 2—3 mm long; segments 0.7—1.2 cm long, narrowly lanceolate, long acuminate, conspicuously veined, tomentose or villose, with yellow glands outside, the upper two segments united beyond the middle. Corolla yellow. Standard obovate-elliptic, 0.8—1.2 cm long and 0.7—0.8 cm wide, rounded, to slightly emarginate, with two unfolded auricles at the base, and linear-wedge-shaped, 1.5—2 mm long claw. Wings shorter than the keel, oblong, about 7 mm long and 2—2.5 mm wide, apically rounded and with a sharp pointed auricle at the base, the claw 1.5—2 mm long. Keel-petals oblong-elliptic, truncate at the base, 0.8—1 mm long, the ca 2—2.5 mm long claw excluded. Anthers small. Pod oblong, somewhat narrowed at both ends, more or less curved, somewhat impressed between the seeds, 2—2.5 cm long and 0.7—1.1 cm wide, dark brown, minutely tomentose. Seeds 2, roundish-kidney shaped, 4—4.5 mm in diam., dark brown.

Greater and Lesser Antilles; tropical South America.

Common weed.

Vernacular names: pea withe (Windward Group).

SABA: Between The Bottom and Windwardside, 200 m (Boldinch 1346, fl. July); Great Rendez Vous, 475 m (Stoffers 3073, fl. Ap.); gut between Hellsgate and Mastic Gut, 300—400 m (Boldinch 2027, fr. July); slope of The Mountain, 400 m (Suringar s.n., fl. & fr. Ap. [L]); ibid., near Windwardside, 400—475 m (Stoffers 3335, fl. May); Bottom Hill, 300—350 m (Stoffers 3140, fl. & fr. May; 2015, fl. Ap.); Paris Hill, 200—400 m (Suringar s.n., fl. Ap. [L]); Laddergut, 100—200 m (Suringar s.n., fl. Ap. [L]); Stoffers 2754, fl. Ap.); ibid., 0—200 m (Boldinch 1972, fl. & fr. July); from The Bottom to Crispine, 200—300 m (Stoffers 2979, st. Ap.); Crispine, 400 m (Boldinch 1718, st. July); Jenkins Hill, 350 m (Stoffers 3159, fl. May); Windwardside (Boldinch 2311, fr. July; Arnaldo 668, fl. & fr. Aug.); without loc. (Burgers 497, st. Feb.).

ST. EUSTATIUS: near White Wall (Stoffers 4779, st. Aug.); English Quarter (Boldinch 1005, fl. June); slope of The Quill (Suringar s.n., fl. Ap. [L]); ibid., near Bengalen (Boldinch 660, fl. June); ibid., 150 m (Suringar s.n., fl. Ap. [L]); hill near Concordia, 50—100 m (Boldinch 951, fl. June); top of The Quill, 400 m (Boldinch 215, st. June; 276, fl. & fr. June); Red Cliff, Tumble Down Dick Bay (Suringar s.n., fl. Ap. [L]).

ST. MARTIN: lower part of hills between Mount Chambord and Mount Vernon (Boldinch 2947, fl. Aug.); mountain between Mont des Accords and Sentry Hill, 200—300 (Boldinch 2870, fl. Aug.); Sentry Hill (Stoffers 2721, fl. & fr. Ap.); Princess Quarter (George s.n., sub Boldinch 2740, st. Aug.); hills along the western side of Cul de Sac (Stoffers 2599, fl. March); hills along the eastern side of Cul de Sac (Stoffers 2664, fl. Ap.; Boldinch 3439, fl. Sept.); Cul de Sac-Marigot Hill, 0—200 m (Stoffers 2634, fl. Aug.); lower part of Milldrum Hill (Boldinch 3173, st. Sept.); Naked Boy Hill, 50—200 m (Boldinch 2693, st. Aug.); French Frontier (Suringar s.n., fl. May [L]).

**Canavalia** DeCandolle, Prodr. 2: 403. 1825, nom. conserv. 3891

Herbaceous or suffrutescent plants; stems creeping or climbing. Leaves pinnately 3-foliolate. Stipules present, often small, deciduous, sometimes spurred and swollen below; stipellae small, deciduous. Inflorescence consisting of axillary, long-pedunculate racemes, the flowers paired or few together on minute tubercles, shortly pedicellate, pendulous. Bracts and bracteoles small, deciduous. Calyx tubular-campanulate, 5-lobed, bi-lipped, the upper lip very large, bifid or truncate, formed by the 2 upper lobes; the lower lip small, 3-lobed or 3-dentate, formed by the lower lobes. Corolla glabrous, violaceous or white; the petals clawed. Standard reflexed, orbicular, emarginate at the apex and bicallose at the base. Wings and keel falcate-oblong, the keel incurved, obtuse or beaked. Stamens: filaments united into a closed sheath, the vexillar stamen free at its base; anthers versatile, uniform, longitudinally dehiscent. Ovary shortly stipitate; style glabrous; stigma terminal, small. Ovules many. Pod dehiscent, oblong or linear, compressed or turgid, with a longitudinal rib on each side near the upper margin. Seeds ovoid, ellipsoid or reniform, compressed with linear hilum.

About 50 species in the tropics and subtropics, mainly in America.

**K e y to the species:**

- I. Leaflets roundish to obovate-elliptic, emarginate; seeds brown with darker marbling or streaked pale yellow . . . . . *C. maritima*  
Leaflets ovate-elliptic, obtuse or subacute to acuminate; seeds white  
*C. ensiformis*

**Canavalia maritima** (Aubl.) Thou.

THOUARS in DESVAUX, Journ. Bot. 1: 80. 1813; URBAN, Symb. Ant. 8: 308. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 419. 1924; WILLIAMS, Fl. Trinidad & Tobago 1(4): 234. 1931; QUESTEL, Fl. Isl. St. Bartholomew 125. 1941; LEON & ALAIN, Fl. Cuba 2: 357, fig. 145. 1951; GOODING *et al.*, Fl. Barbados 197. 1956; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 155. 1971; ADAMS, Flowering plants of Jamaica 357. 1972; — *Dolichos maritima* AUBLET, Pl. Guiane fr. 2: 295. 1786; — *Dolichos obtusifolius* LAMARCK, Encycl. 2: 295. 1786; — *Canavalia obtusifolia* (LAMARCK) DE CANDOLLE, Prodr. 2: 404. 1825; GRISEBACH, Fl. Br. W. Ind. Isl. 197. 1860; DUSS, Fl. phan. Ant. franç. 215. 1897; URBAN, Symb. Ant. 4: 306. 1905; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 216. 1909; BOLDINGH, Fl. D.W. Ind. Isl. 1: 96. 1909; Fl. Ned. W. Ind. Eil. 225. 1918; FAWCETT & RENDLE, Fl. Jamaica 4(2): 60. 1920; — *Dolichos*

*roseus* SWARTZ, Fl. Ind. Occ. 1243. 1806; — *Canavalia rosea* DECANDOLLE, Prodr. 2: 404. 1825; PIPER & DUNN, Kew Bull. 138. 1922.

Perennial, climbing or trailing, herb; stems up to 10 m long, silky hairy when young, glabrescent. Leaflets roundish to obovate-elliptic or the terminal one somewhat wedge-shaped, emarginate or rounded at the apex, inequilateral at the base, 2.5—10 × 1.5—10 cm, glabrescent. Inflorescence up to 30 cm long; peduncle 10—15 cm long, puberulous; pedicels about 2 mm long. Bracts small, 1 mm long, very deciduous; bracteoles ovate, 2 mm long, deciduous. Calyx pubescent, tube 7—9 mm long, the upper lip 4—5 mm long. Corolla violet-rosy. Standard 2.5—3.5 cm long and 1.5—2 cm wide, emarginate, the claw 6 mm long. Wings 2—2.75 cm long, falcate-oblong, obtuse, auriculate, pale magenta. Keel obtuse, 1 cm wide, the petals united about the middle, as long as the wings, pale magenta. Staminal tube about 2 cm long; anthers 2 mm long. Ovary pubescent; style 1.5 cm long. Pod straight, linear-oblong, 5—15 × 2—3 cm, glabrescent, the longitudinal rib on 2—3 mm distance from the upper suture. Seeds 4—10, ellipsoid, slightly compressed, 1.25—1.5(—2) × 1—1.3 × 0.5—1.1 mm, brown with darker marbling or streaked pale yellow, to almost black; hilum black, 7—8 mm long.

Tropics and subtropics.

On sandy sea-shores, sometimes climbing in strand woodland.

Vernacular names: sea peas (Windward Group).

ARUBA: Lago Heights (Arnoldo 2178, fl. & fr. Ap.; Stoffers 6260, fl. & fr. March).

ST. EUSTATIUS: near Boven (?) (Boldingh 1231, fr. June); seashore near Oranjestad (Boldingh 22, fr. May; 33, fr. May); without loc. (v. Groll-Meyer 244, fl.).

ST. MARTIN: Mulletpond (Boldingh 2767, fib. Aug.); road to Bluff (Arnoldo 1349, fib. March); Pointe Blanche (George s.n. sub Boldingh 2489); between Simson Bay and Simson Bay Lagoon (Stoffers 2507, st. March; 2394, fl. & fr. March); Philipsburg near Saltpond (Arnoldo 3136, fl. & fr. Dec.).

#### **Canavalia ensiformis (L.) DC.**

DECANDOLLE, Prodr. 2: 404. 1825; FAWCETT & RENDLE, Fl. Jamaica 4(2): 61. 1920; URBAN, Symb. Ant. 8: 757. 1921; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 419. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 234. 1931; LEON & ALAIN, Fl. Cuba 2: 357. 1951; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 36, fig. 65. 1954; Gekw. en nutt. pl. Ned. Ant. 155, fig. 65. 1964; SAUER, Brittonia 16: 142, fig. 12. 1964; GOODING *et al.*, Fl. Barbados 198. 1965; ADAMS, Flowering plants of Jamaica 357. 1972; — *Dolichos ensiformis* LINNAEUS, Spec. Plant. 725. 1753.

Climbing or bushy annual, capable of becoming a perennial climber; stems up to 1.25 m long, glabrous or appressed pubescent. Leaflets ovate-elliptic or elliptic, obtuse, subacute to acuminate, mucronate at the apex, more or less cuneate at the base, 5.5—15 × 3—11 cm, glabrescent or sparsely pubescent on both surfaces; venation raised and reticulate on both surfaces; petiole 2—11

cm long; rhachis 1—3.5 cm long; petiolules 1—11 mm long, densely pubescent. Stipules caducous. Inflorescence with 10—35 cm long peduncle and 5—15 cm long axis, many flowered, the flowers 2—3 together on the nodes; pedicels 2—5 cm long. Bracts lanceolate-ovate, 5 mm long; bracteoles 2 mm long, obtuse. Calyx sparsely pubescent, the tube 6—7 mm long, the upper lip about as long as the tube, truncate, emarginate. Corolla rose to purple. Standard about 2.75 cm long, suborbicular, emarginate, the claw 5 mm long. Wings and keel-petals 2—2.5 cm long. Stamens 10; filament united for most of their length, the uppermost stamens free at the base and slightly adhering to the sheath above; anthers globose, dorsifixed, deep yellow. Pistil bearded; stigma terminal, clavate. Pod linear-oblong, up to 30 cm long and 3.5 cm wide, many seeded; valves twisting, glabrous or glabrescent, each one with a sutural rib and an additional rib just below it. Seeds white, oblong, compressed, 1.5—2 × 1.0—1.5 × 0.7—1.0 cm; hilum 7.5—9 mm long, pale-brown with orange margin.

Probably native of the American tropics; now widespread and cultivated.

Along road-sides.

Vernacular name: boonchi ojada.

CURAÇAO: near Grote Berg (Stoffers 8453, fr. March).

#### **Galactia P. Brown, Nat. Hist. Jamaica 298. 1756**

Climbing, erect or prostrate herbs or subshrubs. Leaves 1—3-foliate. Stipules small; stipellae deciduous. Inflorescence consisting of axillary, few-flowered, often nodose racemes or fascicles or rarely flowers solitary. Bracts and bracteoles small, deciduous. Calyx campanulate, 4-lobed, the lobes often as long as or longer than the tube. Standard obovate or orbicular, biauriculate at the base. Wings narrow, oblong to obovate, adherent to the keel. Keel-petals oblong, narrow, nearly straight, about as long as the wings. Stamens diadelphous, the vexillar stamen free above the base; anthers uniform. Ovary subsessile; style filiform, glabrous; stigma small. Ovules many. Pod linear, straight or slightly curved, compressed, coriaceous, bi-valved, with partitions between the seeds. Seeds small; hilum small, central, elliptic, not arillate or with a vestigial rim-aril.

A pantropical genus, the number of species variously estimated at 50—80.

#### **Key to the species:**

- |   |                      |
|---|----------------------|
| 1. Leaves 1-foliate, flowers yellow-white . . . . .           | <i>G. nummularia</i> |
| Leaves 3-foliate . . . . .                                    | 2                    |
| 2. Leaflets mostly less than 3 cm long . . . . .              | <i>G. dubia</i>      |
| Leaflets mostly 5 or more cm long . . . . .                   | 3                    |
| 3. Standard 24—27 mm long; racemes up to 30 cm long . . . . . | <i>G. rubra</i>      |
| Standard much smaller; racemes up to 15 cm long . . . . .     | 4                    |

4. Leaflets linear to linear-oblong, somewhat emarginate and mucronate at the apex; inflorescence 1- to few-flowered; pedicels 1 mm long; standard obovate, 7—8 mm long; seeds blackish . . . . . *G. longifolia*  
 Leaflets ovate to elliptic, rounded or acutish at the apex; inflorescence slender, up to 15 cm long, sometimes not over 2—3 cm; pedicels to 2.5 mm; standard obovate, 8—10 mm long . . . . . *G. striata*

**Galactia dubia P. DC.**

DECANDOLLE, Prodr. 2: 238. 1825; URBAN, Symb. Ant. 4: 304. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 95. 1909; Fl. Ned. W. Ind. Eil. 224. 1913; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 418. 1924; LEON & ALAIN, Fl. Cuba 2: 354. 1951; — *Galactia filiformis* BENTHAM, Ann. Wien. Mus. 2: 127. 1838; GRISEBACH, Fl. Br. W. Ind. Isl. 194. 1860 p.p.; DUSS, Fl. phan. Ant. franç. 210. 1897 p.p.

Perennial vine; stems slender, up to 2 m long, densely appressed-pubescent to glabrate. Leaves 3-foliate; petiole up to 2.5 cm long; petiolule of the terminal leaflet up to 0.9 cm long, of the lateral ones 1—1.5 mm; leaflets ovate, oval or obovate, rounded, emarginate and mucronate at the apex, rounded at the base, chartaceous, appressed-pilose especially beneath, often nearly glabrous above. Stipules lanceolate, acuminate, strongly veined, 1.5—3 mm long, stipellae linear, about 1.5 mm long. Inflorescence short and few-flowered, short-pedunculate; pedicels 4—6 mm long; peduncle and pedicels appressed-pilose. Bracts ovate, acuminate, 1.5 × 0.75 mm; bracteoles ovate, acute, 1 × 0.75 mm. Calyx 6—7 mm long, its tube campanulate, contracted in the lower 1 mm, the lobes unequal, lanceolate, 3.5—4.5 mm long, glabrous or pilose. Corolla white, pink, purple or violaceous; standard obovate to broadly obovate, 12—15 × 9—10 mm, its 1—1.5 mm long claw included; wings obovate 13—14 × 4—5 mm, its 3 mm long claw included; keel-petals about as long as the standard and petals, arcuate on the lower side, suberect on the upper, 12—15 × 3.5—4 mm, the 3 mm long stipe included. Stamens with c. 10 mm long filaments; style as long as the ovary; stigma small. Ovules 12—14. Pod 3—6 cm long and 5—6 mm wide, appressed-pilose. Seeds ovate-reniform, 3—4.5 × 2—2.5 mm, blackish-brown mottled.

Porto Rico, St. Martin, St. Eustatius, Montserrat, and Anguilla.

Roadside weed.

St. EUSTATIUS: from Signal Hill to Venus Bay (Boldingh 959, st. May); Little Mountains (Stoffers 3538, st. July; 3732, st. July; 3740, fr. July); top of the hills near Concordia, 100 m (Boldingh 943, defl. June); top of The Quill, 380 m (Boldingh 278, fl. June); slope of The Quill near White Wall (Stoffers 4771, fl. & fr. Aug.); top of the cliff between Gallows Bay and White Wall (Boldingh 789, fr. May); White Wall (Boldingh 818, fr. June); gut near Fort de Windt (Boldingh 827, st. June; 830, fl. June); between Glass Bottle and White Wall (Stoffers 4069, st. Aug.); without loc. (Boldingh 771A, st.).

St. MARTIN: along roads in Cul de Sac (Boldingh 2999, defl., Aug.); near Mullet Pond (Boldingh 2779, st. Aug.).

**Galactia rubra** Urb.

URBAN, Symb. Ant. 2: 309. 1900; BOLDINGH, Fl. D.W. Ind. Isl. 1: 95. 1909; Fl. Ned. W. Ind. Eil. 225. 1913 (excl. Bonaire and Curaçao); — *Galactia rubra* AUCT. non URBAN: BOLDINGH, Fl. D.W. Ind. Isl. 2: 43. 1914.

Twiner, stems woody at the base, up to 4 m long, subglabrous to densely pilose. Stipules subulate to lanceolate, up to 4 mm long; stipellae linear, minute. Leaves 3-foliolate; petiole 1—4(—6) cm long, densely pilose to tomentose; leaflets ovate, ovate-elliptic or ovate-oblong, rounded and emarginate, acute or obtuse and shortly mucronate at the apex, rounded or very slightly cordate at the base, 3—6.5(—7.5) cm long and 1—4(—4.5) cm wide, the lateral ones smaller than the terminal, chartaceous, glabrous or sparsely pilose above, shortly or appressed white- or brownish pilose beneath; petiolule of the terminal leaflet up to 1.5(—2) cm long, of the lateral ones 1—2 mm long. Inflorescence consisting of rather slender, axillary racemes up to 30 cm long; peduncle varying in length; pedicels 3—6 mm long; peduncle, rhachis and pedicels tomentose to sparingly pubescent or glabrescent in age. Bracts subulate, about 2 mm long, appressed-pilose; bracteoles ovate, long-acuminate, 4 × 1.5 mm, sparsely pilose. Calyx with 5 mm long campanulate tube, its teeth lanceolate, very unequal in length, varying from 7—12 mm long. Corolla red to purplish; standard recurved, obovate-elliptic, 24—27 × 10—11 mm, including the 4 mm long claw, the blade slightly auriculate at the base; wings shorter than the standard, 21—22 × 3—3.5 mm, including the 2.5 mm long claw; keel-petals suberect, obovate, 25 × 4 mm, their claw c. 6 mm long. Stamens with c. 25 mm long filaments, united for  $\frac{3}{4}$  their length; anthers ovate-oblong to oblong, 1—1.5 mm long. Ovary subsessile, densely appressed-pubescent; style about twice as long as the ovary, sparsely pilose; stigma small. Ovules 10—12. Pod 5—8 cm long and 6—9 mm wide, straight or somewhat incurved above, densely pilose. Seeds obliquely obovate, 5—6 mm long, blackish-brown.

St. Kitts, Antigua, Guadeloupe, Dominica, Martinique, St. Eustatius, Saba, and St. Martin.

Roadside weed.

SABA: between The Bottom and Mary's Point, 350 m (Boldingh 1496, fl. & fr. July); Ladder Gut (Suringar s.n., fr. Ap. [L]); road to Windwardside (Arnoldo 599, fl. & fr. Aug.); along roads, 200—300 m (Boldingh 1715, st. June); Hellsgate to Mary's Point (Boldingh 2042, fr. July); slope of The Mountain near St. John's (Boldingh 1737, st. July).

ST. EUSTATIUS: slope of The Quill, on the side of White Wall, 200 m (Boldingh 1174, fl. June); top of The Quill, 350—450 m (Stoffers 3693, fl. July); without loc. (v. Groll-Meyer 204H, fl. & fr.; 282, fl.).

ST. MARTIN: top of the hills on northern side of Cul de Sac, 200—300 m (Boldingh 2994, fl. Aug.); French border (Suringar s.n., fl. May [L]).

**Galactia striata** (Jacq.) Urb.

URBAN, Symb. Ant. 2: 320. 1900; Symb. Ant. 4: 304. 1905; Symb. Ant. 8: 307. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 56. 1920; BRITTON & WILSON, Sci. Surv. Porto

Rico & Virgin Isl. 5: 417. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 235. 1931; QUESTEL, Fl. Isl. St. Bartholomew 124. 1941; LEON & ALAIN, Fl. Cuba 2: 352. 1951; ARNOLDO, Zakflora 54. 1954; Zakflora 141. 1964; ADAMS, Flowering plants of Jamaica 359. 1972; — *Glycine striata* JACQUIN, Hort. Vindob. 1: 32, t. 76. 1770.

A variable twiner; stems up to 5 m long, sparingly pubescent to tomentose. Leaves 3-foliate; petiole up to 4(—4.5) cm long, tomentose; petiolule of the terminal leaflet (3)—7—10(—12) mm long, of the lateral leaflets 2—3 mm long, tomentose; leaflets ovate, ovate-elliptic or elliptic, obtuse, rounded or acutish at the apex, obtuse or acute at the base, 2—8 × 1.5—4 cm, submembranaceous, thinly pubescent or glabrescent above, silky tomentose beneath. Stipules subulate, tomentose, 2—4 mm long; stipellae minute. Inflorescence consisting of slender, axillary racemes, up to 15 cm long, but sometimes not over 2—3 cm; peduncle short; pedicels 1.5—2.5 mm long; peduncle, rhachis and pedicels tomentose. Bracteoles adnate to the calyx, subulate, 3 mm long. Calyx 8—9 mm long, densely pubescent; the tube campanulate, 3 mm long, its teeth unequal, lanceolate to ovate-lanceolate, acuminate, 5—6 mm long. Corolla purple to reddish-purple; standard obovate, 8—10 × 5 mm, its 2 mm long claw included; wings shorter than the standard, 8 × 1.5 mm, the 2.5 mm long claw included; keel-petals about as long as the standard, arcuate. Stamens with 10 mm long filaments; anthers ovate to ovate-oblong, less than 1 mm long. Ovary sessile or nearly so, densely pilose; style as long as the ovary; stigma small. Ovules about 10. Pod 3—7 cm long and 6—9 mm wide, narrowly marginate when mature, more or less pubescent, but tomentose along the middle of each valve. Seeds kidney-shaped, 3.5—4 mm long, mottled pinkish and brown.

Mexico, Venezuela, Greater Antilles, Antigua, Guadeloupe, Tobago, Trinidad, Bonaire, and Curaçao.

Thickets and hillsides at lower and middle elevations.

BONAIRE: calcareous plateau near Fontein (Boldingh 7331, fl. Feb.).

CURAÇAO: Hato (Arnoldo 1591, fl. & fr. March); Seroe Christoffel (Stoffers 1290, fl. Dec.; Arnoldo 18, fl. & fr. March); hills near Savonet (Boldingh 4975, fl. Nov.); near Rooi Kayuda (Stoffers 8073, fl. & fr. Dec.).

#### ***Galactia longifolia* (Jacq.) Benth.**

BENTHAM, Ann. Wien Mus. 2: 127. 1838; URBAN, Symb. Ant. 2: 312. 1900; BOLDINGH, Fl. D.W. Ind. Isl. 1: 95. 1909; Fl. Ned. W. Ind. Eil. 225. 1913; — *Galega longifolia* JACQUIN, Coll. 2: 349. 1788; Ic. plant. rar. 3: 14, t. 572. 1798; — *Galactia angustifolia* AUCT. non KUNTH: GRISEBACH, Kar. 56. 1857; Fl. Br. W. Ind. Isl. 194. 1860; Duss, Fl. phan. Ant. franç. 210. 1897.

Perennial herb; the stems erect in the lower, twining in the upper part, densely appressed pubescent. Leaves 3-foliate; petiole about 1 mm long; petiolule of the terminal leaflet 3—5(—8) mm long, of the lateral leaflets 1—1.5 mm long, appressed pubescent; leaflets linear to linear-oblong, somewhat emarginate and

mucronate at the apex, rounded at the base,  $3-8 \times 0.5-1$  cm, chartaceous, appressed short-pilose or sericeus beneath, sparsely short-pilose above. Stipules lanceolate to subulate-acuminate, 2.5—3 mm long. Inflorescence axillary, 1- to few-flowered; peduncle filiform, 2—8 cm long; pedicels 1 mm long. Bracts linear, 1 mm long; bracteoles very small. Calyx short and appressed-pubescent, the tube campanulate, 1.5—2 mm long, its teeth lanceolate, acute, 3.5—4 mm long. Corolla rose to purpureous; standard recurved  $7-8 \times 3.5-4$  mm, obovate, the 1—1.5 mm long claw included; wings and keel-petals about as long as the standard. Stamens with 6 mm long filaments and small, ovate to narrowly ovate anthers. Ovary short- and appressed-pubescent; style twice as long as the ovary, arcuate, sessile; stigma small. Ovules 9—10. Pod 3—5 cm long and 4—5 mm wide, nearly straight, appressed-pubescent. Seeds ovate,  $3.5-4 \times 2-2.5$  mm, blackish or somewhat mottled.

Antigua, Guadeloupe, and St. Eustatius.

ST. EUSTATIUS: Fairplay (Suringar s.n., fl. & fr. Ap. [L]); slope of The Quill (Suringar s.n., fr. Ap. [L]); Cultuurvlakte (Suringar s.n., fl. & fr. May [L]); without loc. (Suringar s.n., fl. & fr. May [L]).

**Galactia nummularia** Urb.

URBAN, Symb. Ant. 6: 12. 1909; BOLDINGH, Fl. D.W. Ind. Isl. 1: 95. 1909; Fl. Ned. W. Ind. Eil. 225. 1913.

Perennial herb; stems up to 10 cm long, somewhat woody in the lower, curved or somewhat climbing in the upper part, densely covered with short, white, reflexed hairs. Leaves 1-foliate; petiole 0.5—1 cm long; petiolule 1 mm long; leaflet orbicular to oval-orbicular, rounded and emarginate but not mucronate at the apex, rounded or subtruncate at the base,  $0.7-1.5 \times 0.7-1.5$  cm, coriaceous, glabrous above except for the sparingly pilose midvein, appressed pubescent beneath. Stipules lanceolate-subulate, 1.5—2 mm long. Peduncle probably 1-flowered, the pedicel 3—4 mm long. Calyx appressed-pilose, 7 mm long, the lobes twice as long as the tube, unequal. Corolla yellow-white; standard orbicular-obovate, emarginate at the apex, 12 mm long and 9 mm wide, its 1 mm long claw included; wings about as long as the standard, basically apendiculate; keel-petals as long as the wings, subarcuate. Stamens with 10—12 mm long filaments, slightly connate in the basal part; anthers oblong, about 0.5 mm long. Ovary subsessile, appressed-pubescent; style long, curved; stigma small. Ovules about 12. Pod not seen.

Endemic.

ST. MARTIN: near Guana Bay (Boldingh 1599? or 2428).

The number 1599 is given in URBAN's handwriting. The type specimen is Boldingh 2428, collected near Guana Bay, St. Martin. BOLDINGH cites no. 2428 also in his Flora of the Dutch West Indian Islands 1: 95. 1909. Since no. 1599 actually belongs to

BOLDINGH's collection series from Saba, the specimen in the Utrecht herbarium is probably Boldingh 2428 and consequently the Utrecht specimen can be considered as an isotype. It is only a small fragment.

**Erythrina** Linnaeus, Spec. Plant. 706. 1753

Trees or shrubs. Branches and petioles often armed with spines. Leaves alternate, deciduous, usually crowded towards the top of the branchlets, pinnately 3-foliolate; leaflets entire, thin chartaceous to thick coriaceous. Stipules small, deciduous; stipellae often glanduliform. Inflorescence consisting of axillary and terminal racemes, or of 2- to few-flowered lateral pseudo-racemes, or flowers solitary in the leaf-axils. Bracts and bracteoles small. Calyx spathaceous or campanulate to tubular, often asymmetric, at the margin entire or variously toothed. Petals very unequal. Standard large, linear-oblong to subrotund, often short-clawed, often reflexed, membranaceous to thick-membranaceous. Wings shorter than the standard, subequal to or shorter than the keel; keel-petals free or coherent, much shorter than or subequal to the standard. Stamens 10, monadelphous or diadelphous, the vexillar stamen free above the middle; filaments glabrous; anthers versatile, oblong or linear, introrse, opening longitudinally. Ovary stipitate; style slender, glabrous at least distally; stigma small, capitate, terminal. Pod stipitate linear-oblong, compressed, often constricted between the seeds, opening in various ways. Seeds ellipsoid.

Over 100 species in tropical and subtropical regions.

**K e y to the species:**

1. Standard petal straight in open flower; petioles and leaflets sparsely stellate-pubescent but soon glabrous or nearly so . . . . . *E. variegata*  
Standard petal recurved in open flower; petioles and leaflets densely pubescent with stellate hairs . . . . . *E. velutina*

**Erythrina variegata** L.

LINNAEUS, Herb. Amb. 10. 1754; Amoen. Acad. 4: 122. 1759; KRUKOFF, Brittonia 3: 336. 1939; — *Erythrina corallodendron* Auct. non LINNAEUS: BOLDINGH, Fl. D.W. Ind. Isl. 1: 94. 1909; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 219. 1909; BOLDINGH, Fl. Ned. W. Ind. Eil. 224. 1913; FAWCETT & RENDLE, Fl. Jamaica 4(2): 50. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 427. 1924; ARNOLDO, Gekw. en nutt. pl. Ned. Antillen 159. 1964; GOODING *et al.*, Fl. Barbados 206. 1965.

Tree or tall shrub with a much branched crown; stems pale, with short, straight, black prickles, branches at first densely stellate-tomentose but soon glabrous, armed with short spines. Flowering when leaves not present. Leaves alternate, long-petiolate, 3-foliolate; leaflets ovate to broadly rhomboid, up to 12 cm long and 14 cm wide, acute to acuminate at the apex, truncate, rounded or slightly cordate at the base, sparsely stellate-pubescent or tomentose beneath, almost glabrous afterwards; petiole up to 17 cm long; rhachis 1—6 cm long; petiolules

0.5—1.3 mm long; lateral leaflets smaller than the terminal one. Inflorescence a dense, many-flowered raceme, covered with a deciduous stellate, ferrugineous tomentum, the rhachis 10—20 cm long; peduncle 5—15 cm long; pedicels usually 3 together, 8—10 mm long, tomentose. Bracts and bracteoles oblong, 2—3 × 0.5—1 mm, soon deciduous. Calyx fusiform in bud, narrowed above and terminating in 2 filiform, 2—4 mm long lobes and a thickened knob, later on splitting deeply on the vexillar side to form a 2—4 cm long spathe, at first covered with a ferruginous stellate tomentum, later glabrous. Standard dark crimson or scarlet, short-clawed, elliptic, 5—7 cm long and 2—2.5 cm wide, rounded at the apex. Keel and wing-petals about equal, about  $\frac{1}{3}$  of the length of the standard. Stamens shorter than the standard. Ovary and stipe densely tomentose. Pod stipitate, sausage-shaped to elongate-cylindric, 10—25 cm long and 2—3 cm wide, moderately but not deeply constricted between the seeds, densely tomentose when young but soon glabrous. Seeds 4—10, purplish-red to pinkish, oblong or oblong-ellipsoid, 1—2 cm long with a 5—8 mm long hilum.

Native in the tropics of the Old World, introduced as an ornamental into the Neotropics and there widely grown, especially in the West Indies.

Naturalized in Saba and St. Martin; cultivated in Curaçao.

SABA: St. John's, 250 m (Boldingham 1729, st. July).

ST. MARTIN: Marigot Hill-Marigot, 0—200 m (Boldingham 2653, fr. Aug.).

**Erythrina velutina** Willd.

WILLDENOW, Ges. Nat. Freunde Berlin, Neue Schr. 3: 426. 1801; GRISEBACH, Fl. Br. W. Ind. Isl. 199. 1860; BOLDINGH, Fl. Ned. W. Ind. Eil. 224. 1913; Fl. D.W. Ind. Isl. 2: 43. 1914; BRITTON & MILLSPAUGH, Bahama Fl. 196. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 50, fig. 15. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 515. 1947; LEON & ALAIN, Fl. Cuba 2: 348. 1951; ARNOLDO, Zakflora 18, fig. 31. 1954; Zakflora 141, fig. 31. 1964; ADAMS, Flowering plants of Jamaica 361. 1972.

Large tree; out of leaf at anthesis, branches armed with spines; branchlets rather stout, often aculeate. Leaves petiolate; petioles 5—20 cm long, densely pubescent with stellate hairs, at length glabrescent; petiolules 3—7 mm long, pubescent as the petiole. Leaflets variable in shape, with stellate hairs, but usually tomentose beneath, soon glabrescent especially on the upper surface, chartaceous; terminal leaflet roundish, broadly ovate-rhomboid or subcordate, 4—16 cm long and 5—19 cm wide, usually emarginate or retuse or rounded to obtuse at the apex, subcordate to truncate at the base; lateral leaflets oblique, smaller than the terminal one. Racemes with rhachis up to 20 cm long, densely pubescent with stellate hairs, soon glabrescent proximally; pedicels 2—3 together, usually less than 1.5 cm long, pubescent as the rhachis. Bracts ovate, 2.3—3 × 1.5—1.7 mm; bracteoles linear-lanceolate, 0.7—1.2 × 0.4 mm. Calyx membranaceous, spathaceous, split at one side to near the base, minutely 5-dentate, 1.5—2.5 cm long, densely pubescent with stellate hairs. Standard orange, suborbicular, ob-ovate, ovate or elliptic, reflexed, 3—6 cm long, emarginate, retuse or rounded at

the apex, broadly cuneate at the base; claw about 1 cm long; wings obliquely obovate-elliptic, often curved, involute on the vexillar side, longer than the calyx and the keel-petals; the latter free, broadly obovate or obliquely so, up to  $20 \times 14$  mm, shortly clawed at the base. Stamens with filaments much longer than the keel, up to 7 cm long; anthers oblong to linear,  $3.5 \times 1$  mm. Ovary and stipe densely pubescent with stellate hairs. Pod ligneous, up to  $15 \times 1.5$  cm, tomentose, somewhat constricted between the seeds, short-beaked at the apex, the lower part seedless and stalk-like, rarely 1-seeded and than shorter. Seeds red, about 1.5 cm long, with a 3 mm long, broad, black line from the hilum.

West Indies, Northern Venezuela, south-eastern Brazil, and Ecuador.

**Vernacular name:** boonchi di cabai, boonchi di carta, boonchi di palu (Leeward Group).

**ARUBA:** Rooi Prins (Stoffers 2160, st. Feb.); calcareous hills near Fontein (Boldinghi 6465, st. Jan.); slope of Jamanota (Arnoldo 300, st. Dec.); Kristal Berg (Suringar s.n., st. Feb. [L]).

BONAIRE: Rincón (Arnoldo 1999, fl. March).

**CURAÇAO:** hills near Blein (Boldsingh 4773, st. Oct.); Piscadera Baai (Britton & Shafer 3135, fl. March); Museumtuin Mundo Nobo (Arnoldo 2019, fl. Ap.); Rif (Suringar s.n., fl. March [L]); Willemstad (Suringar s.n., st. Jan. [L]); without loc. (Aschenberg s.n., fl.).

**Phaseolus** Linnaeus, Syst. ed. I, 216. 1735; Spec. Plant. 723. 1753

Twining or prostrate, sometimes erect herbs. Leaves pinnately 3- or rarely 1-foliolate. Stipules sometimes produced, persistent; stipellae present. Inflorescence consisting of axillary racemes; the flowers 2—4 together on node-like swellings along the rhachis; peduncle elongate. Bracts small, deciduous; bracteoles usually larger and persistent for longer. Calyx campanulate or tubular, 4—5-lobed. Petals glabrous. Standard orbicular or obovate, unguiculate, bi-auriculate, rarely contorted. Wings obovate or oblong, adherent to the keel. Keel-petals prolonged and incurved, forming a complete spiral or coil. Stamens 10, diadelphous, the vexillar stamen free; anthers uniform. Ovary subsessile; style thickened at the free end, barbate at the apex on the insideside; stigma lateral or oblique. Ovules many. Pod linear or oblong, dehiscent, straight or falcate, bi-valved, compressed or subterete, beaked.

About 200 species in the tropics and subtropics.

### Key to the species:

**Phaseolus lathyroides L.**

LINNAEUS, Spec. Plant. ed. 2. 1018. 1763; URBAN, Symb. Ant. 4: 310. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 97. 1909; Fl. Ned. W. Ind. Eil. 226. 1913; BRITTON & MILLSPAUGH, Bahama Fl. 194. 1920; URBAN, Symb. Ant. 8: 312. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 65. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 421. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 241. 1931; ARNOLDO, Zakflora 100. 1954; Zakflora 143. 1964; — *Macroptilium lathyroides* (L.) URBAN, Symb. Ant. 9: 457. 1928; LEON & ALAIN 2: 360. 1951; GOODING *et al.*, Fl. Barbados 210. 1965; ADAMS, Flowering plants of Jamaica 363. 1972; — *Phaseolus semierectus* LINNAEUS, Mantissa 1: 100. 1767; GRISEBACH, Fl. Br. W. Ind. Isl. 197. 1860; DUSS, Fl. phan. Ant. franç. 214. 1897.

Erect, tough-stemmed annual herb, up to 1 m tall; stems later sometimes twining. Leaves petiolate; petiole 4—5 cm long; leaflets variable, from linear to ovate-elliptic or lanceolate, obtuse or acute at the apex, rounded at the base (2—)3—7 cm long and (0.5—)1—2.5 cm wide, glabrous to sparingly pubescent on both sides. Stipules lanceolate, subulate-tipped, 8—10 mm long, not-appendaged at the base; stipellae subulate, 3—4 mm long. Racemes about 10 cm long on an elongate peduncle up to 25 cm long. Flowers often paired, distant. Bracts subulate, up to 6 mm long; bracteoles subulate, 3 mm long. Calyx tubular-campanulate, 4 mm long, the teeth unequal, c. 2 mm long. Corolla dark-red. Standard obovate-bilobed, 1.5 cm long. Wings falcate-oblong, with a long slender claw, much longer than the standard and the keel. Keel forming one spiral. Claws of wings and keel adherent to the staminal sheath. Pod linear, straight, 8—10 cm long and 2—3 mm wide, appressed pubescent. Seeds oblong-reniform, dark and light-brown, about 3 mm long.

Tropics and subtropics.

CURAÇAO: Hofje of Knip Plantation (Boldingham 5498, st. Dec.); Hato (Arnoldo 1592, fl. & fr. March).

**Phaseolus peduncularis H.B.K.**

HUMBOLDT, BONPLAND & KUNTH, Nov. Gen. et Spec. 6: 447. 1824; URBAN, Symb. Ant. 8: 312. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 241. 1931; ARNOLDO, Zakflora 99. 1954; Zakflora 144. 1964; — *Vigna peduncularis* FAWCETT & RENDLE, Fl. Jamaica 4(2): 68. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 423. 1924; LEON & ALAIN, Fl. Cuba 2: 364. 1951.

Twining or prostrate herb; stems pubescent, at length glabrous. Leaves petiolate; petiole 3—5(—7) cm long; leaflets broadly ovate or ovate to oblong, membranaceous, acuminate to acute at the apex, truncate to broadly wedge-shaped at the base, 5—12 cm long and 3—8 cm wide, the lateral strongly inequilateral, glabrous or puberulous. Stipules lanceolate, up to 6 mm long and 3 mm wide; stipellae oblong, 2 mm long. Racemes 2—4 cm long, at the top of the elongate, up to 20 cm long peduncle; pedicels 2 mm long. Bracts 1.5 mm long, oblong-elliptic, ribbed; bracteoles minute. Calyx broadly campanulate, 4 mm long, 4-dentate, the superior tooth truncate and emarginate, the 3 inferior triangular,

acute, much shorter than the tube. Corolla lilac. Standard about 1.5 cm long and wide. Wings obovate, about 2 cm long. Keel sigmoid. Pod narrowly linear, nearly straight, compressed, 4—8 cm long and 3—5 mm wide, many-seeded, sparsely appressed-pubescent; beak 5 mm long. Seeds brownish, about 2 mm long.

Tropical America.

CURAÇAO: Seroe Christoffel, near the top (Arnoldo 1160, fr. Feb.); Rooi Beru (Arnoldo 1958, fl. & fr. Feb.).

**Phaseolus longepedunculatus Mart.**

MARTIUS ex BENTHAM, Ann. Wien Mus. 2: 141. 1838; BOLDINGH, Fl. Ned. W. Ind. Eil. 226. 1913; Fl. D.W. Ind. Isl. 2: 43. 1914; ARNOLDO, Zakflora 100, 1954; Zakflora 144. 1964; — *Macroptilium longepedunculatum* (MART.) URBAN, Symb. Ant. 9: 457. 1928; LEON & ALAIN, Fl. Cuba 2: 360. 1951.

Twining perennial; stems pilose, rarely more or less glabrate. Leaves petiolate; petiole up to 5(—7) cm long; leaflets oblong, the terminal rhomboid or broadly auriculate at the base, the lateral often hastate-bilobed and strongly inequilateral, acute at the apex, rounded to truncate at the base, 2—5(—7) cm long and 1.5—3.5(—4) cm wide, velvety pubescent on both sides. Stipules linear or lanceolate, up to 5 mm long; stipellae setaceous, 1—1.5 mm long. Racemes 10—30 cm long, the more than 15 cm long peduncle included; flowers 2 together, somewhat distant; pedicels 1 mm long. Bracts and bracteoles subulate, up to 3 mm long. Calyx tubular-campanulate, 4 mm long, its teeth acute, much shorter than the tube. Corolla red to violaceous. Standard obovate, bilobed, 1.5 cm long. Wings falcate-oblong, longer than the standard and keel-petals, the claws slender, 7 mm long. Keel forming one complete spiral. Claws of the wings and the keel-petals adherent to the staminal sheath. Pod linear, compressed, acuminate, 5—6 cm long and 2—3 mm wide, appressed-pubescent; beak curved. Seeds oblong, shining, 2 mm long.

Tropical South America from Central America south to Paraguay; Aruba, Bonaire, Curaçao.

ARUBA: Sivi sivi (Boldingh 6328, flb. Jan.); calcareous soil near San Nicolas (Boldingh 6489, fl. Jan.); near Savaneta (Stoffers 6258, fl. & fr. March).

BONAIRE: garden in Rincón (Boldingh 7149, fl. Feb.).

CURAÇAO: Santa Barbara Plantation (Went 1846, fl. Jan.); hofje of Knip Plantation (Boldingh 5494, flb. Dec.); Malpais (Boldingh s.n., fl. Oct.); Hato (Boldingh 5081, st. Nov.).

**Clitoria Linnaeus, Spec. Plant. 753. 1753**

Herbs or shrubs, usually with twining stems. Leaves alternate, pinnately 3—9-foliolate. Stipules striate, persistent; stipellae present. Flowers 1- to several on

axillary peduncles. Bracts striate, persistent; bracteoles appressed to the calyx, large. Calyx tubular, 5-dentate, the two upper teeth higher united. Standard large, roundish to obovate, narrowed into the claw, without appendages. Wings falcate-oblong, adhering to the keel. Keel long-clawed, falcate-oblong, shorter than the wings. Stamens 10, monadelphous or diadelphous. Ovary stipitate; style incurved, filiform, horizontally dilated at the apex, barbed on the insideside. Ovules numerous. Pod stipitate, linear or linear-oblong, flat or compressed, bi-valved, several seeded, the valves coriaceous or woody, sometimes with a longitudinal rib (not in the Neth. Antillean species). Seeds globose or compressed.

About 40 species in tropical regions.

**Clitoria ternatea L.**

LINNAEUS, Spec. Plant. 753. 1753; GRISEBACH, Fl. Br. W. Ind. Isl. 192. 1859; Duss, Fl. phan. Ant. franç. 207. 1897; URBAN, Symb. Ant. 4: 299. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 93. 1909; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 218. 1909; BOLDINGH, Fl. Ned. W. Ind. Eil. 223. 1913; Fl. D.W. Ind. Isl. 2: 42. 1914; BRITTON & MILLSPAUGH, Bahama Fl. 187. 1920; URBAN, Symb. Ant. 8: 301. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 46, fig. 13. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 411. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 245. 1931; QUESTEL, Fl. Isl. St. Bartholomew 122. 1941; LEON & ALAIN, Fl. Cuba 2: 338, fig. 139. 1951; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 47, fig. 64. 1954; Zakflora 54, 99, fig. 36. 1954; Zakflora 139, fig. 36. 1964; GOODING *et al.*, Fl. Barbados 199. 1965; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 157, fig. 64. 1971; ADAMS, Flowering plants of Jamaica 365. 1972.

Perennial herb, often somewhat woody below; stems twining, glabrescent. Leaves 5(—9)-foliolate; leaflets elliptic or ovate, glabrous, obtuse or acute and often mucronate at the apex, obtuse or cuneate at the base, 2—6 × 1—3 cm, glabrescent on both sides, terminal leaflets larger, up to 8 × 4 cm; petiole 3—8 cm long; petiolules 1—2 mm long. Stipules subulate, 5—8 mm long; stipellae filiform, 3—4 cm long. Flowers solitary, axillary, on 0.3—1.5 cm long stalks. Bracts unequal, one linear, the other one elliptic-ovate, 4—5 mm long; bracteoles orbicular, 6—9 mm long. Flowers blue or white. Calyx glabrous or nearly so, its tube 9—11 mm long; teeth ovate-lanceolate, 7—8 mm long. Standard emarginate at the apex, 4—5 × 3 cm long, pubescent outside. Wings with 2 × 0.5 cm lamen and 1.5 cm long claw. Keel-petals with 1.5 × 1 cm lamen and 1 cm long claw. Stamens diadelphous, the vexillar one free. Ovary densely woolly pubescent. Pod nearly sessile, flat, septate, linear, beaked, 6—11 × 1 cm, pubescent, glabrate. Seeds 3—9, subreniform, compressed, smooth, 5 mm long, black.

Native of the Old World tropics; cultivated and naturalized in the West Indies and tropical continental America.

Vernacular names: zapata di la reina, blomchi di koholoshi, boonchi di palomba, jamani tabacu (Leeward Group).

ARUBA: in garden in Savaneta (Stoffers 1900, fl. Jan.).

CURAÇAO: Santa Cruz (Britton & Shafer 3009, fl. March); Groot Piscadera (Burgers 100, fl. Jan.); Ronde Klip (Arnoldo 1809, fl. & fr. Dec.); Cas Corá (Stoffers 258, fl. & fr. Oct.); Klein Santa Marta (Stoffers 84, fl. & fr. Sept.; 109, fl. & fr. Sept.); Beekenburg (Lens 806, fl. & fr. Oct.); Hofje of Weis Afo (Nagelkerken 115, fl. & fr. Feb.); without loc. (Aschenberg s.n., fl. & fr.).

ST. EUSTATIUS: without loc. (v. Groll-Meyer 235H, fl.).

**Centrosema** (DC.) BENTHAM, Comm. Legum. Gen. 53. 1837; Ann. Wien. Mus. 2: 117. 1839 ("1840"), nom. conserv. 3858

Herbs or shrubs; stems twining. Leaves alternate, pinnately 3-foliolate. Stipules striate, persistent; stipellae setaceous. Flowers 1—3 together on solitary or paired, axillary peduncles. Bracts striate; bracteoles striate and appressed to the calyx, often large. Calyx campanulate or funnel-shaped, 5-dentate or 5-fid, the two superior teeth often higher connate, the inferior tooth often elongated. Standard large, broadly orbicular, shortly clawed, spurred or gibbous above the claw. Wings obovate-falcate. Keel incurved, shorter than the standard. Stamens 10, monadelphous or diadelphous and then the vexillar stamen free. Ovary subsessile; style incurved, dilated at the apex, glabrous; stigma terminal, barbed. Ovules many. Pod subsessile, linear, compressed, long-beaked, with partitions between the seeds, bi-valved, dehiscent; valves ribbed near the margins. Seeds transversely oblong.

About 40 species in tropical and subtropical America.

**Centrosema virginianum** (L.) Benth.

BENTHAM, Comm. Leg. Gen. 56. 1837; Ann. Wien. Mus. 2: 120. 1838; GRISEBACH, Fl. Br. W. Ind. Isl. 193. 1860; DUSS, Fl. phan. Ant. franç. 209. 1897; URBAN, Symb. Ant. 4: 300. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 94. 1909; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 217. 1909; BOLDINGH, Fl. Ned. W. Ind. Eil. 223. 1913; URBAN, Symb. Ant. 8: 303. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 46. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 230. 1931; QUESTEL, Fl. Isl. St. Bartholomew 122. 1941; LEON & ALAIN, Fl. Cuba 2: 340, fig. 140A. 1951; ARNOLDO, Zakflora 101. 1954; Zakflora 138. 1964; GOODING *et al.*, Fl. Barbados 199. 1965; ADAMS, Flowering plants of Jamaica 366. 1972; — *Clitoria virginiana* LINNAEUS, Spec. Plant. 753. 1753; — *Centrosema virginianum* L. var. *angustifolia* DECANDOLLE, Prodr. 2: 234. 1825; — *Centrosema virginianum* L. var. *angustifolia* GRISEBACH, Fl. Br. W. Ind. Isl. 93. 1860; — *Bradburya virginiana* (L.) KUNTZE, Rev. Gen. Plant. 164. 1891; BRITTON & MILLSPAUGH, Bahama Fl. 188. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 413. 1924.

Herb, often somewhat woody below; stems slender, herbaceous. Leaflets narrowly ovate to oblong, lanceolate-oblong or linear-lanceolate, acute or acuminate at the apex, rounded at the base, glabrous or minutely puberulous, 2—7(—12) × 0.5—2.5 cm; petiolule 1 mm long; petiole 1—4 cm long. Stipules lanceolate or ovate, acute at the apex, 2—3 mm long; stipellae setaceous, 2 mm long. The species strongly varies with regard to width of leaflets and colour of the corolla. Peduncle 1—3-flowered, 1—2.5 cm long, solitary or in pairs. Bracts ovate,

acuminate, 3 mm long; bracteoles ovate, acuminate, 5—7 mm long. Flowers blue to white. Calyx campanulate, dentate; its tube 2—3 mm long; teeth linear, distant, subequal, 6—9 mm long. Standard spurred, sparsely puberulous outside, 2 × 3 cm. Wings 1.5 × 0.5 cm. Keel-petals semi-orbicular, 1.5 × 1.8 cm long. Stamensheath incurved, 2 cm long; anthers very small. Pod linear, 8—12 cm long and 3—4 mm wide; beak 0.5—1 cm long; valves coriaceous, tordate, ribs close to and forming part of the margins. Seeds 2 × 1.5 mm, dark brown to black.

Continental America from southern U.S. to Argentine; West Indies, and West tropical Africa.

Common weed.

Vernacular name: blue bell (Windward Group).

CURAÇAO: Hofje of Barber (Arnoldo 29, fl. & fr. Dec.); Seroe Christoffel, 200 m (Arnoldo 1777, fl. & fr. Dec.).

SABA: Windwardside (Arnoldo 661, fl. & fr. Aug.); lower part of Bottom Mountain, 250 m (Boldingh 1414, fr. July); The Bottom (Boldingh 1452, fl. & fr. July); Ladder Gut, 100—200 m (Stoffers 2788, st. Ap.); ibid., 0—100 m (Stoffers 2833, fl. Ap.); Fort Cut between Promised Land and Thais Hill (Stoffers 3434, fl. & fr. May); Great Rendez-Vous, 450 m (Stoffers 3834, fl. & fr. May); The Mountain above Windwardside (Stoffers 3831, fl. May); between The Bottom and Saddle, 200—300 m (Stoffers 3102, fl. Ap.); between The Bottom and Crispine (Stoffers 3034, fl. & fr. Ap.); gut south of St. John (Stoffers 3001, fl. & fr. Ap.); without loc. (Lionarons 69).

ST. EUSTATIUS: Top of The Quill, 380 m (Boldingh 265, fr. June); slope of The Quill near Bengalen, 50—200 m (Boldingh 639, fl. June; 683, st. June); slope of The Quill, 200 m (Boldingh 878, st. June); along roads near Bengalen (Boldingh 1193, fl. & fr. June); on top of the cliff between Oranjestad and Fort de Windt (Boldingh 777, st. June); gut near Fort de Windt, 50 m (Boldingh 844, fl. June); lower part of hills near Concordia (Boldingh 979, st. June); along roads in Oranjestad (Boldingh 1131, st. June); without loc. (v. Groll-Meyer 236, fl.; Boldingh s.n., fl. & fr.).

ST. MARTIN: Pointe Blanche (George s.n. sub Boldingh 2494, fl. & fr. Aug.); along Great Salt Pond (Arnoldo 1242, fl. & fr. March); from Philipsburg to Belvedere (Boldingh 2574, fl. & fr. Aug.); from Philipsburg to Guana Bay (Boldingh 2387, st. Aug.); Naked Boy Hill, 100—250 m (Boldingh 2682, fr. Aug.; Stoffers 2712A, fl. & fr. Ap.; 2707, fl. Ap.; 2703, fl. & fr. Ap.; 2696, fl. & fr. Ap.); lower part of Milldrum Hill (Boldingh 3172, fr. Sept.); foot of Mount William (Stoffers 2541, fr. March); along road in Cul de Sac (Stoffers 2445, fl. & fr. March); airfield (Stoffers 2390, fl. March; 2363, fl. & fr. March); Little Bay (Stoffers 2487, fl. & fr. March); Sentry Hill, 100—200 m (Stoffers 2732, fl. & fr. Ap.); along roads in Philipsburg (Stoffers 2312, fl. & fr. March).

*Teramnus* Swartz, Prodr. 105. 1788

Slender, twining, shrubby herbs. Leaves alternate, pinnately 3-foliate. Stipules small; stipellae present. Inflorescence often of two forms on the same plant:

few-flowered, axillary clusters or two or more flowers in clusters along the rhachis of axillary racemes. Bracts small; bracteoles linear or lanceolate, striate. Flowers small. Calyx campanulate, the two upper teeth free or sometimes connate. Standard obovate, long-clawed. Wings narrow. Keel short, nearly straight. Stamens 10, monadelphous; anthers alternately sterile. Ovary sessile; style short, glabrous; stigma capitate. Ovules several. Pod linear, bi-valved, with partitions between the seeds.

Six species in the tropics.

**Teramnus labialis** (L.f.) Spreng.

SPRENGEL, Syst. Veg. 3: 235. 1826; GRISEBACH, Fl. Br. W. Ind. Isl. 193. 1860; DUSS, Fl. phan. Ant. franç. 209. 1897; BOLDINGH, Fl. D.W. Ind. Isl. 1: 94. 1909; Fl. Ned. W. Ind. Eil. 223. 1913; FAWCETT & RENDLE, Fl. Jamaica 4(2): 49. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 414. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 239. 1931; LEON & ALAIN, Fl. Cuba 2: 341. 1951; ARNOLDO, Zakflora 100. 1954; Zakflora 146. 1964; GOODING *et al.*, Fl. Barbados 218. 1965; ADAMS, Flowering plants of Jamaica 366. 1972; — *Glycine labialis* LINNAEUS fil., Suppl. 325. 1781.

Twining herb with glabrescent branches. Leaves petiolate; petiole 2—5 cm long; leaflets elliptic, the lateral ones inequilateral, acute to obtuse and mucronulate at the apex, rounded to cuneate at the base, 2—5.5 × 1—3 cm, sparsely pubescent or glabrescent on the upper surface, appressed pubescent beneath. Stipules lanceolate to long-acuminate ovate; stipellae setaceous. Inflorescence consisting of few-flowered, axillary clusters or two or more flowers in clusters along the rhachis of axillary racemes. Bracts lanceolate, 1 mm long; bracteoles close to the calyx base, 1 mm long. Flowers white to pinkish. Calyx tomentose, the tube 1.5—2 mm long, teeth 5, ovate-lanceolate, about 1.5 mm long. Standard broadly obovate in outline, with a 3 mm long suborbicular lamen, and a wedge-shaped, 1 mm long claw. Wings with a rounded lobe at the junction of claw and lamen, the latter about 2 mm long, the claw 1.5 mm long. Keel-petals 3 mm long, long-clawed. Stamens with 3 mm long filaments; anthers very small. Ovary tomentose. Pod linear, slightly curved, 3—5 cm long and 3—4 mm wide, upper suture more or less wing-like, with scattered hairs or glabrescent, terminated by a short, oblique beak. Seeds several, 6—11, more or less subquadangular, 2 × 2 mm, black.

Tropics.

Weed.

CURAÇAO: Museum Garden, Mundo Nobo (Arnoldo 1568, fl. & fr. Feb.).

SABA: Booby Hill (Arnoldo 675, fl. & fr. Aug.; 788, fl. & fr. Aug.).

ST. MARTIN: in pasture grounds near Bellevue (Boldingham 2824, fl. & fr. Aug.); from Philipsburg to Belvedere (Boldingham 2563, fl. & fr. Aug.).

**Abrus Linnaeus**, Syst. Nat. ed. 12. 2: 472. 1767

Shrubs or undershrubs, usually climbing. Leaves alternate, paripinnate; rhachis

prolonged into a bristle; leaflets many, opposite, entire. Stipules present; stipellae wanting. Inflorescence consisting of terminal and axillary racemes. Bracts small; bracteoles appressed to the calyx. Flowers red, white or pink. Calyx campanulate, very shortly 5-dentate. Standard with ovate lamen and short, broad claw; the latter more or less adhering to the staminal sheath. Wings oblong, falcate. Keel curved, longer than the wings. Stamens 9, united into a sheath, split on the upperside, the vexillar stamen wanting. Ovary subsessile or short-stipitate; style short, incurved; stigma small, capitate. Ovules many. Pod oblong to linear, flat, bi-valved, with transverse, membranaceous partitions between the seeds. Seeds subglobose, shining.

Five species in tropical regions.

**Abrus precatorius L.**

LINNAEUS, Syst. Nat. ed. 12. 2: 472. 1767; GRISEBACH, Fl. Br. W. Ind. Isl. 190. 1859; DUSS, Fl. phan. Ant. franç. 204. 1897; URBAN, Symb. Ant. 4: 298. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 93. 1909; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 214. 1909; BOLDINGH, Fl. Ned. W. Ind. Eil. 222. 1913; Fl. D.W. Ind. Isl. 2: 42. 1914; URBAN, Symb. Ant. 8: 300. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 42, fig. 11. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 248. 1931; QUESTEL, Fl. Isl. St. Bartholomew, 122. 1941; LEON & ALAIN, Fl. Cuba 2: 336. 1951; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 10. 1954; Zakflora 55, 99. 1954; Zakflora 135. 1964; GOODING *et al.*, Fl. Barbados 194, fig. 11. 1965; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 152, fig. 195. 1971; ADAMS, Flowering plants of Jamaica 367. 1972; — *Glycine abrus* LINNAEUS, Spec. Plant. 753. 175; — *Abrus abrus* (L.) W. F. WRIGHT, Contr. U.S. Nat. Herb. 9: 171. 1905; BRITTON & MILLSPAUGH, Bahama Fl. 187. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 410. 1924.

Undershrub, woody below; branches glabrous, slender, climbing or twining, up to 3 m long, younger parts sparingly pubescent. Leaves 10—20-jugate, up to 15 cm long; leaflets membranaceous, oblong or the upper ones obovate, rounded and mucronate at the apex, rounded to slightly cuneate at the base, 8—15 × 4—7 mm, glabrous above, sparingly puberulent beneath; petiole 0.5—1 cm long; petiolules very short. Stipules lanceolate, 3—5 mm long. Racemes axillary, up to 8 cm long with many, crowded, red or white flowers. Bracts and bracteoles minute. Calyx 3 mm long. Standard 10 × 6 mm. Wings 8 × 1.5 mm. Keel 9—10 × 2 mm. Stamens: filaments 8—9 mm long; anthers very small. Ovary pubescent. Pod nearly rectangular, beaked, 2—3.5 × 1—1.5 cm. Seeds 3—5, subglobose, usually red, with a black part around the hilum, 6 mm long.

Tropical regions.

Waste grounds and thickets at lower and middle elevation.

Vernacular names: makura (Leeward Group);  
jumby beans, liquorice plant (Windward Group).

CURAÇAO: Malpais (Arnoldo 1567, fr. Dec.); Rooi Behoenda (Boldingh 5392, fr. Nov.); Veeris (Suringar s.n., st. Jan. [L]).

**SABA:** Ladder Gut, 200 m (Boldtingh 2006, st. July; Suringar s.n., fr. Ap. [L]); The Bottom, 200 m (Boldtingh 1450, fr. July); Compagnie's Gut, 150—300 m (Stoffers 2994, Ap.).

St. EUSTATIUS: slope of the cliff near Oranjestad (Boldningh 55, fr. May); slope of The Quill (Suringar s.n., fr. Ap. [L]); ibid. near Bengalen, 250 m (Boldningh 702, fr. June); ibid. northern slope, 240 m (Stoffers 3994, fr. July); along roads (Suringar s.n., fl. & fr. May [L]); Oranjestad (Boldningh 572, fr. June); without loc. (v. Groll-Meyer s.n., fl. & fr.; Suringar, fr. Ap. [L]).

**St. MARTIN:** along roads from Bethlehem to Mont Chambord (Boldinch 2910, fr. Aug.); Marigot Hill to Marigot, 0—200 m (Boldinch 2640, fr. Aug.); Princess Quarter (George s.n., sub. Boldinch 2459, fr. Aug.); Kay Bay Hill (Arnoldo 1297, fr. March); top of Mount William (Stoffers 2549, fr. March); Kanaal Rolandus (Stoffers 2278, fr. March); Cole Bay Hill (Suringar s.n., fl. May [L]); without loc. (Boldinch 3619, fl. & fr.).

**Aeschynomene** Linnaeus, Spec. Plant. 713. 1753

Herbs or shrubs, erect or prostrate. Leaves pinnately compound, with or without an odd terminal leaflet, few- to many-foliate; leaflets opposite or subopposite. Stipules peltate and appendiculate below the point of attachment or attached at the base and not appendiculate; stipellae wanting. Inflorescence consisting of axillary or terminal racemes, or rarely panicles. Bracts small, similar to the stipules; bracteoles appressed to the calyx. Calyx 5-merous, campanulate or strongly 2-labiate; its lobes equal or unequal. Standard orbicular, clawed. Wings free, obliquely obovate or oblong. Keel obovate, obtuse or narrowed and incurved above the middle. Stamens 10; filaments united into a sheath, split on one side or on both sides; anthers equal, small. Ovary stipitate; style glabrous; stigma terminal. Ovules 2 to many. Pod stipitate, 2- to many-jointed; articles flat or convex, indehiscent. Seeds reniform.

About 300 species in tropical regions.

### Key to the species:

- Leaflets in 10—30 pairs, linear-oblong; stipules appendiculate below the point of attachment; calyx 2-lipped; the vexillary lip 2-merous, the carinal lip 3-merous . . . . . 2  
Leaflets 5—9, obovate; stipules attached at the base; calyx campanulate, its lobes subequal . . . . . *Ae. viscidula*
  - Stipules glabrous or nearly so; pod glabrous or nearly so . . . . . *Ae. americana* var. *americana*  
Stipules hispid at the point of attachment; pod puberulent and/or beset with glandular hairs . . . . . *Ae. americana* var. *glandulosa*

**Aeschynomene americana** L.

LINNAEUS, Spec. Plant. 713. 1753; GRIEBACH, Fl. Br. W. Ind. Isl. 185. 1859; Duss, Fl. phan. Ant. franç. 197. 1897; URBAN, Symb. Ant. 4: 287. 1905; BOLDINGH, Fl. Ned. W. Ind. Eil. 218. 1913; Fl. D.W. Ind. Isl. 2: 41. 1914; FAWCETT & RENDLE, Fl. Jamaica 4(2): 27, fig. 7. 1920; URBAN, Symb. Ant. 8: 289. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 397. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 216. 1931; LEON & ALAIN, Fl. Cuba 2: 318, fig. 133. 1951; ARNOLDO, Zakflora 106. 1954; RUDD, Contr. U.S. Nat. Herb. 32: 24. 1955; ARNOLDO, Zakflora 135. 1964; GOODING *et al.*, Fl. Barbados 195. 1965; ADAMS, Flowering Plants of Jamaica 369. 1972.

Erect herb, up to 1.50 m high, often woody at the base, subglabrous to hispid. Leaves 2—7 cm long; leaflets 10—30 pairs, linear-oblong, subfalcate, mucronate at the apex, obliquely rounded at the base, apex and margins usually serrate-ciliate, 4—15 × 1—2 mm, prominently 3—5-veined beneath; petiole 2—3 mm long. Stipules appendiculate below the point of attachment, striate, attenuate, 5—10(—25) × 1—4 mm, the lower portion erose-truncate or attenuate, ciliate, glabrous or somewhat hispid at the point of attachment. Inflorescence consisting of lax, few-flowered racemes; pedicels slender, about 0.5 mm long. Bracts cordate, acuminate or somewhat truncate-flabelliform, 2—4 × 2—3 mm, glabrous, ciliate; bracteoles linear-ovate to linear, acute to acuminate, 2—4 × 1—1.5 mm, glabrous, serrate-ciliate. Calyx deeply 2-labiate, 3—6 mm long, upper lip emarginate, lower lip 3-dentate, glabrous to sparsely hispid. Corolla flesh-coloured with a tinge of yellow. Standard broadly obovate to sub-orbicular, about 5 × 5 mm, often ciliate at the apex, the claw 2—3 mm long. Wings obliquely oblong, about 5 × 2 mm lamen, somewhat ciliated at the apex, the claw 1.5 mm long. Keel-petals with 5 × 2—2.5 mm, slightly ciliate lamen and 1.5 mm long claw. Stamens 10; filaments about 6 mm long, united into a sheath, split on both sides; anthers less than 0.5 mm long. Pod shortly stipitate and usually slightly curved, up to 4 cm long, upper margin entire, the lower margin deeply crenate, 4—8-jointed, contracted between the seeds; articles semi-circular, 3—6 × 2.5—5 mm, glabrous to puberulent, sometimes with glandular hairs along the margins, often verrucose when mature. Seeds dark brown, about 2 × 1.5 mm.

Continental tropical America and West Indies.

**var. americana**

Stipules glabrous or nearly so. Pods glabrous or with only a slight tendency towards development of puberulence or glandular hairs on the surface or along the margins.

Caribbean and adjacent area.

Wet and moist places; rare weed in plantations.

CURAÇAO: Klein St. Michiel (Stoffers 265A, fl. Oct.); Santa Cruz (Britton & Shafer 3015, fl. March); Museum tuin, Mundo Nobo (Arnoldo 2017, fr. Ap.); Groot Piscadera (Burgers 98, fl. Jan.); Hofje near Weis Afo (Nagelkerken 147, fr. March).

**var. *glandulosa* (Poir.) Rudd**

RUDD, Contr. U.S. Nat. Herb. 32: 26. 1955; — *Aeschynomene glandulosa* POIRET in LAMARCK, Encycl. Suppl. 4: 76. 1816.

Stipules hispid at the point of attachment. Pod puberulent and/or beset with glandular hairs.

Predominately Central America, but also widely distributed in tropical and subtropical America.

Wet or moist places.

CURAÇAO: Julianadorp (Arnoldo 1821, fl. & fr. Jan.); Santa Maria (Boldingh s.n., fr.); Gasparito (Suringar s.n., fl. & fr. Jan. [L]).

***Aeschynomene viscidula* Michx.**

MICHAUX, Fl. Bor. Am. 2: 74. 1803, non Ae. viscidula Roxb. ex WILLDENOW 1908; LEON & ALAIN, Fl. Cuba 2: 320. 1951; RUDD, Contr. U.S. Nat. Herb. 32(1): 24. 1955; — *Aeschynomene falcata* AUCT. non DeCANDOLLE: BOLDINGH, Fl. Ned. W. Ind. Eil. 219. 1913; Fl. D.W. Ind. Isl. 2: 41. 1914; ARNOLDO, Zakflora 103. 1954; Zakflora 135. 1964.

Herb, often somewhat woody below; stems prostrate, slender, up to 75 cm long, viscidulous-pubescent with glandular hairs and crisp-pubescent. Leaves usually 4—5-jugate or 5—9-foliolate; leaflets subopposite, obliquely obovate, rounded and mucronate at apex, cuneate at the base, 8—15 × 5—10 mm, denticulate-ciliate, reticulate; petiole and rhachis pubescent as the stems. Stipules ovate-deltoid, acute, 2—4 × 1.5—2 mm, hispidulous to subglabrous, ciliate. Inflorescence consisting of axillary, few-flowered racemes; peduncle and pedicels slender, pubescent as the stems. Bracts stipule-like, smaller; bracteoles ovate, 2 × 1 mm. Calyx campanulate, 2.5—3.5 mm long, hispidulous, ciliate; the lobes ovate, subequal, 1.5—2 mm long. Corolla white to yellowish. Standard orbicular, 5—6 mm in diam., outside slightly pubescent, the claw 1—1.5 mm long. Wings obliquely obovate, 6 × 3—3.5 mm, the claw 1.5 mm long. Keel-petals falcate, 4 × 2 mm, the claw 3—3.5 mm long. Stamens: filaments about 6 mm long, the sheath split on the lower side; anthers small. Ovary stipitate, tomentulose; the stipe 1 mm long. Pod 2—4(—5)-jointed, up to 2 cm long, upper margin straight, the lower crenate; stipe 1—3 mm long, subglabrous; articles 3.5—4 mm in diam., white-tomentulose and usually beset with glandular hairs, rarely the terminal joint glabrous. Seeds light-brown to black, 2.5—3 mm long and 2 mm wide.

Continental America, from Southern U.S. to Brazil; Cuba, Curaçao, and Guadeloupe. Rather common weed.

CURAÇAO: Hofje of Siberië (Boldingh 5194, fl. & fr. Dec.); Hofje of Valentijn (Boldingh 5362, fl. & fr. Nov.); hills near Santa Cruz (Boldingh 5599a, fl. Dec.); Seroe Christoffel (Arnoldo 1128, fl. & fr. Jan.; Stoffers 1284, fl. & fr. Dec.); Montagne (Arnoldo 7, fl. & fr. Feb.); Pareira (Arnoldo 1882, fl. & fr. Jan.); rocky hills from Wacao to Playa Grande (Britton & Shafer 3041, fl. & fr. March); Hofje of Barber (Boldingh 5215, fl. & fr.); Hofje of Weis Afo (Nagelkerken 157, fl. & fr. March).

**Arachis** Linnaeus, Spec. Plant. 741. 1753

Herbs. Leaves pinnately 4-foliolate or rarely 3-foliolate. Stipules partly adnate to the petiole; stipellae wanting. Inflorescence consisting of axillary, short, few-flowered spikes. Bracts membranaceous stipuliform; bracteoles wanting. Flowers subsessile, small. Receptacle elongated and stalk-like. Calyx 5-lobed, the 4 upper lobes highly connate, the lower one narrow, free. Corolla yellow; sometimes striped with red. Standard orbiculate, shortly narrowed at the base. Wings free, oblong. Keel-petals incurved, rostrate. Stamens 8—10 monadelphous; 4—5 anthers elongate and subbasifix, alternating with 4—5 short and versatile ones. Ovary subsessile in the base of the receptacle; style filiform, elongated; stigma minute, terminal. Ovules (1—)2—4(—6). Pod oblong or sausage-shaped, constricted between the seeds, continuous inside, thick-coriaceous and reticulate, functionally indehiscent; developing below the soil surface, having been pushed beneath by the considerable lengthening, reflexing and stiffening of the gynophore. Seeds few, ovoid; cotyledons thick and fleshy, rich in oil.

Species about 10, in Brazil; some species are widely cultivated throughout the tropics.

**Arachis hypogaea** L.

LINNAEUS, Spec. Plant. 741. 1753; GRISEBACH, Fl. Br. W. Ind. Isl. 189. 1859; DUSS, Fl. phan. Ant. franç. 203. 1897; URBAN, Symb. Ant. 4: 289. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 90. 1909; Fl. Ned. W. Ind. Eil. 219. 1913; Fl. D.W. Ind. Isl. 2: 41. 1914; URBAN, Symb. Ant. 8: 291. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 41. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 399. 1924; QUESTEL, Fl. Isl. St. Bartholomew 120. 1941; LEON & ALAIN, Fl. Cuba 2: 321, fig. 184. 1951; ARNOLDO, Gekw. en nutt. planten Ned. Ant. 21: 1954; Gekw. en nutt. planten Ned. Ant. 153. 1964; GOODING et al., Fl. Barbados 221. 1965.

Erect or straggling, annual herb; stems about 30 cm long, pilose but later glabrescent. Leaves 4-foliolate; leaflets obovate or elliptic, rounded or somewhat emarginate and mucronate at the apex, narrowed at the base, 1—5(—7) × 1—2(—3) cm, glabrous or sparsely pilose beneath, ciliate; petiole up to 5 cm long; petiolules 1—2 mm long. Stipules lanceolate to linear-lanceolate, acuminate, 1—3 cm long, at the base adnate to the petiole. Flowers axillary, apparently solitary and stalked. Primary bracts stipuliform, 10—15 × 4—5 mm; secondary bracts similar but bifid. Receptacle of the calyx slender up to 3 cm long, pilose; lower tooth of the calyx linear-lanceolate, 7 mm long. Corolla yellow, mostly with red veins, about 1 cm long. Stamens 8—9. After fertilization the gynophore strongly enlarging and becoming rigid, forcing the ovary into the soil. Pod oblong, 2—4(—6) cm long and 1—1.5 cm wide, reticulate. Seeds 1—2 cm long.

Probably originally native to Brazil, but now very widely cultivated throughout the tropics.

Vernacular names: pea nut (Windward Group).  
pienda, olinootje (Leeward Group).

CURAÇAO: without loc. (Aschenberg s.n., fl.).

SABA: The Mountain, 600 m (Boldsingh 1778, st. July).

**Zornia** J. F. Gmelin, Syst. Nat. 2: 1076, 1096. 1791

Annual or perennial herbs. Leaves petiolate, 2- or 4-foliolate; leaflets glandular-punctate. Stipules present, produced below the point of insertion, often glandular-punctate; stipellae wanting. Inflorescence spicate, terminal or axillary, several-flowered. Bracts stipule-like, paired, glandular-punctate, ciliate, enclosing the flowers when in bud. Calyx 5-lobed, with a short tube. Corolla 5-merous, papilionaceous, the petals clawed. Stamens 10; the filaments united into a tube which abscisses about half its length at maturity; 5 versatile anthers alternating with 5 sub-basifixed anthers. Loment 2—15-articulate, the articles with or without bristles. Seeds ovoid, estrophiolate, black to dark brown.

About 75 species in tropical and subtropical regions.

In the herbarium of the State University of Utrecht [U] there is only one, rather depauperated and defoliated, sterile specimen of *Zornia* that probably can be identified as *D. reticulatus* Sw.: Boldsingh 1186, collected along roads near Bengalen, ST. EUSTATIUS.

**Stylosanthes** Swartz, Prodr. Veg. Ind. Occ. 108. 1788

Erect or spreading perennial herbs or subshrubs, often somewhat hispid with glandular hairs. Leaves pinnately 3-foliolate, petiolate. Stipules amplexicaul, adnate to the petiole, the apex divided into two teeth; stipellae wanting. Inflorescence consisting of axillary or terminal, 1- to several-flowered spikes; primary bracts 1(—3)-foliolate, imbricate, persistent; secondary bracts lanceolate or irregularly 2—3-fid, hyaline, persistent, ciliate. Flowers subsessile, with a stalk-like, slender receptacle. Calyx of 5 sepals, joined at the base, the lowest longest and the upper joined for about half their length. Corolla small, yellow or orange with purple stripes. Standard suborbicular or obovate, emarginate at the apex, unguiculate. Wings obliquous-oblong, free, with a lateral basal spur and small auricles. Keel-petals narrow, incurved, subrostrate, auriculate. Stamens 10, monadelphous; anthers unequal, alternately oblong, sub-basifixed and subglobose, versatile, smaller ones. Ovary sessile or subsessile, linear, 2—3-ovulate; style elongate, breaking off towards the middle or nearer the base, the lower part persistent, recurved or revolute; stigma terminal, minute. Pods oblong, compressed, 1—2-articulate but usually one article aborted. Seeds ovoid or irregularly oblong.

About 25 species in the tropics and subtropics.

**Stylosanthes hamata** (L.) Taub.

TAUBERT, Verh. Bot. Brand. 32: 22. 1890; URBAN, Symb. Ant. 4: 288. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 89. 1909; Fl. Ned. W. Ind. Eil. 219. 1913; Fl. D.W. Ind. Isl. 2:

41. 1914; BRITTON & MILLSPAUGH, Bahama Fl. 183. 1920; URBAN, Symb. Ant. 8: 290. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 29, fig. 8. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 398. 1924; QUESTEL, Fl. Isl. St. Bartholomew 120. 1941; LEON & ALAIN, Fl. Cuba 2: 320. 1951; ARNOLDO, Zakflora 101. 1954; Zakflora 145. 1964; GOODING *et al.*, Fl. Barbados 217. 1965; ADAMS, Flowering plants of Jamaica 370. 1972; — *Hedysarum hamatum* LINNAEUS, Syst. Nat. ed. 10. 1170. 1759; — *Stylosanthes procumbens* SWARTZ, Prodr. Veg. Ind. Occ. 108. 1788; GRISEBACH, Fl. Br. W. Ind. Isl. 188. 1859; DUSS, Fl. phan. Ant. franç. 202. 1897.

Perennial herb, often much branched; stems slender, tough, spreading or ascending, usually short but up to 70 cm long, usually pubescent with longer hairs on one side of the stems, sometimes glabrous near the base. Leaflets lanceolate to elliptic, obtuse to subacute and often mucronate at the apex, acute at the base, 1.2—2.5 × 0.3—0.6 cm, glabrous to pilose on both sides, prominently veined below; the lateral ones inequilateral; rhachis 1—2 mm long; petiole 2—6 mm long, pilose or puberulent. Stipules with short-hairy, sericeous or glabrous, 3- or more-veined, 5—7 mm long sheath, usually exceeding the teeth in length. Spikes small, ovoid to oblongoid, few- to several-flowered. Primary bracts 3-foliolate, secondary bracts unifoliolate, variable in pubescence of the sheaths, mostly only ciliate at the apex; bracteoles 2, 2.5—3.5 mm long, ciliate at the apex. Flowers solitary, sometimes accompanied by a sterile branchlet. Receptacle up to 8 mm long, at least twice as long as the more or less acute and ciliate calyx-lobes. Corolla yellow. Standard streaked with purple, suborbicular, retuse at the apex, about 5 × 5 mm. Wings 3.5—4.5 mm long, clawed and auriculate. Keel-petals 3—4.5 mm long, falcate. Loment usually with only the terminal article fertile, D-shaped, 2—4 × 1.5—2 mm, glabrous or somewhat puberulent, the beak equalling or exceeding the terminal article, glabrous or with short pubescence, uncinate.

Antilles, Florida, eastern Mexico and Central America, Colombia, and Venezuela.

Common; in pastures and waste places, on exposed sites on diabase and limestone.

Vernacular names: pinda shimarón (Leeward Group).  
wild clover (Windward Group).

ARUBA: Sivi Sivi (Boldsingh 6313, fl. & fr. Dec.); Seroe Largo (Stoffers 1879, fl. Jan.); Playa (Arnoldo 184, fl. & fr. Dec.); near Mataguerai (Stoffers 1440, fr. Jan.); Rooi Prins (Stoffers 2614, fl. & fr. Feb.); Miralamar (Stoffers 2181, fl. & fr. Feb.); without loc. (Koolwijk s.n. sub Suringar s.n., fl. & fr. [L]).

BONAIRE: calcareous hills near Fontein (Boldsingh 7246, fr. Feb.); calcareous plateau of Bolivia (Boldsingh 7364, fl. & fr. Feb.); airfield (Stoffers 781, fl. & fr. Nov.).

CURAÇAO: hofje of Siberië (Boldsingh 5036, st. Dec.); hofje of Valentijn (Boldsingh 5097, fl. & fr. Nov.); hofje of Barber (Boldsingh 5210A, fl. & fr. Nov.); hofje of Weis Afo (Nagelkerken 128, fl. & fr. Feb.; 141, fl. & fr. March); Julianadorp (Stoffers 305, fl. & fr. Oct.); Tanki Martha Koosje (Burgers 138, fr. Feb.); moist soil near Santa Cruz (Britton & Shafer 3013, fl. March); hills near Blein (Boldsingh 4767, fl. & fr. Oct.); Santa Catharina Plantation (Stoffers 185, fl. & fr. Nov.);

Piscadera Baai (de Wilde 99A, fl. Dec. [L]); Malpais (Stoffers 5037, fl. & fr. Nov.).

SABA: The Bottom (Arnoldo 732, fr. Aug.); Jenkins Hill, 350 m (Stoffers 3151, fl. & fr. May); along roads, 200—300 m (Boldinh 1716, fl. & fr. July); seashore near Flat Point (Boldinh 2138, fr. July); Fort Gut, 150—200 m (Boldinh 1628, st. July); Mary's Point (Suringar s.n., fr. Ap. [L]).

ST. EUSTATIUS: slope of The Quill, near White Wall (Stoffers 4763, fl. & fr. Aug.); along road from Oranjestad to Fort de Windt (Stoffers 3529, fl. & fr. Aug.); hill near Concordia, 100 m (Boldinh 954, fr. June); in garden in Oranjestad (Boldinh 755, fl. June); Signal Hill, 200 m (Boldinh 130, st. May); Gilboa Hill (Suringar s.n., fl. & fr. May [L]); English Quarter (Suringar s.n., fr. May [L]); without loc. (v. Groll 174, fl. & fr.; v. Groll-Meyer 252, fr.; 300, fr.; Suringar s.n., fl. & fr. May [L]).

ST. MARTIN: orchard near Bellevue (Boldinh 2849A, fr. Aug.); from Philipsburg to Guana Bay (Boldinh 2358, fl. Aug.); near Guana Bay (Suringar s.n., fl. & fr. May [L]); along roads in Cul de Sac (Stoffers 2453, fl. & fr. March; 2456, fl. & fr. March); airfield (Stoffers 2397, fl. March); Fort Amsterdam (Stoffers 2338A, fr. March; 2330, fr. March; 2332, fl. & fr. March); Pointe Blanche (George s.n. sub Boldinh 2490, st. Aug.); Cul de Sac Marigot Hill, 0—200 m (Boldinh 2623, fl. Aug.); between Mont Vernon and Orient Bay (Boldinh 2939, fl. Aug.); Cole Bay Hill (Suringar s.n., fl. May [L]).

**Alysicarpus Desvaux, Journ. Bot. Sér. 2. 1: 120. 1813, nom. conserv. 3810**

Herbs. Leaves 1- or rarely 3-foliolate. Stipules scarious, free or connate; stipellae present or wanting. Inflorescence consisting of short, terminal or axillary racemes. Bracts scarious, deciduous; bracteoles wanting. Calyx deeply 4- or 5-cleft, the lobes chartaceous, striate, the two superior ones partly united. Standard obovate or orbicular, clawed. Wings obliquely oblong, adnate to the keel. Keel slightly incurved, obtuse. Stamens 10, diadelphous, the vexillar stamen free. Ovary sub sessile; style filiform with incurved apex; stigma terminal, capitate. Ovules several. Pod subterete, articulate; articles indehiscent, 1-seeded.

About 16 species in the tropics of the Old World; one species also naturalized in tropical America.

**Alysicarpus vaginalis (L.) DC.**

DECANDOLLE, Prodr. 2: 353. 1825; GRISÉBACH, Fl. Br. W. Ind. Isl. 185, 1859; DUSS, Fl. phan. Ant. franç. 199. 1897; FAWCETT & RENDLE, Fl. Jamaica 4(2): 40. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 405. 1924; WILLIAMS, Fl. Trinidad & Tobago 1: 214. 1931; QUESTEL, Fl. Isl. St. Bartholomew 121. 1941; LEON & ALAIN, Fl. Cuba 2: 328, fig. 136. 1951; ARNOLDO, Zakflora 142. 1954; Zakflora 136. 1964; GOODING et al., Fl. Barbados 196. 1965; ADAMS, Flowering plants of Jamaica 371. 1972; — *Hedysarum vaginalis* LINNAEUS, Spec. Plant. 746. 1753; — *Hedysarum nummularifolium* LINNAEUS, Spec. Plant. 746. 1753; — *Alysicarpus nummularifolius* (L.) DECANDOLLE, Prodr. 2: 353. 1825 p.p.; URBAN, Symb. Ant. 4: 294. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 92. 1909; Fl. Ned. W. Ind. Eil. 221. 1913; BRITTON & MILLSPAUGH, Bahama Fl. 185. 1920; URBAN, Symb. Ant. 8: 296. 1920.

Perennial herb; stems creeping and often rooting at the nodes; branches ascending, slender, glabrous, up to 1 m high. Leaves 1-foliolate; leaflet glabrous above, and sparingly pubescent beneath, obtuse and often mucronate at the apex, rounded or cordate at the base; the lower ones orbicular to ovate, 5—12 × 5—10 mm, the upper ones oblong to lanceolate or linear-oblong, 1—2.5 × 0.5—1.5 cm; petiole slender, canaliculate above, up to 1 cm long. Stipules striate, lanceolate, acuminate, 4—12 mm long, free. Racemes in the upper axils, 1—3 cm long, pedicels very short, about 2 mm long, pubescent. Bracts stipelliform, 2—5 mm long. Flowers violaceous to pink. Calyx deeply 4-cleft, 4—5 mm long, its tube 2 mm long, narrowed at the base, the lobes 2—3 mm long, the 3 inferior ones linear-lanceolate, the superior one 2-dentate. Standard with lamen 5 × 4 mm, at the apex slightly emarginate and 1 mm long claw. Wings with lamen 3.5 × 1.5 mm, at the base somewhat auriculate and 1.5 mm long claw. Keel-petals with lamen 2 × 1—1.5 mm and 2 mm long claw. Stamens: filaments 4 mm long, incurved; anthers very small. Pod wrinkled, 1—3 cm long, 2—8 articulate; articles puberulent or glabrous, truncate, 2—2.5 mm long. Seeds about 1 mm long.

A native of tropical Asia; naturalized in the Antilles and Guyana.

Fields, waste and cultivated grounds.

Vernacular name: Sistern pea nut (Windward Group).

CURAÇAO: Klein Santa Marta (Stoffers 85, fl. & fr. Sept.; 99, fl. & fr. Sept.); Groot Santa Marta (Arnoldo 1899, fl. & fr. Jan.).

SABA: between The Bottom and Mary's Point, 100—200 m (Boldsingh 1549, fl. July; 1550, st. July); seaside of Tent Gut Hill, 100 m (Boldsingh 1653, fr. July); road to Windwardside (Arnoldo 700, fl. & fr. Aug.); Bottom Hill, 300—350 m (Stoffers 3137, fl. May).

ST. EUSTATIUS: without loc. (v. Groll-Meyer 250 H, fr.).

ST. MARTIN: along road in Cul de Sac (Stoffers 2449, fl. & fr. March); lower part of Milldrum Hill (Boldsingh 3115, st.); from Philipsburg to Guana Bay (Boldsingh 2359, st. Aug.).

#### **Desmodium Desvaux Journ. de Bot. Sér. 2. 1: 122, t. 5-15. 1813**

Erect, prostrate or scrambling herbs, subshrubs or shrubs. Leaves 1—3-foliolate, petiolate; petioles sulcate, usually exceeding the leaf-rachis in length; leaflets petiolulate, the lateral ones each subtended by 1, the terminal leaflet by 2 stipellae. Stipules various, free or fused, at least when young, somewhat oblique, striate and ciliate. Inflorescence consisting of axillary or terminal, racemose or paniculate racemes. Bracts usually deciduous, striate, ciliate, subtending one flower or a fascicle of 2 to several flowers, secondary bracts often present and then similar as the primary bracts or smaller, each subtending a single flower; bracteoles wanting. Calyx bi-lipped, the upper lobe bi-fid, the lower one 3-toothed with the central tooth longer than the laterals, or the calyx almost equally 5-lobed. Corolla exceeding the calyx in length. Standard slightly clawed. Wings

attached to the keel-petals by a small appendage, at least in young flowers, clawed. Keel-petals long-clawed, partially fused above. Stamens 10, monodelphous or diadelphous; anthers ovoid or oblong, uniform. Ovary sessile or stipitate; style filiform; stigma terminal, small. Ovules few to many. Loment subsessile or stipitate, 2- to many-articulate, indehiscent or tardily dehiscent; articles variously shaped, glabrous to densely pubescent with straight or hooked hairs or these hairs only on the sutures, 1-seeded. Seeds oblong or subquadrate.

Over 300 species in tropical and subtropical regions.

#### Key to the species:

1. Flowers in umbels or clusters opposite the leaves or axillary . *D. triflorum*  
Flowers in terminal or axillary racemes or panicles . . . . . 2
2. Loment notched at the joints unequally and more deeply on the lower margin, the upper margin often almost straight; articles with lower margin always more rounded than upper, often D-shaped . . . . . 3  
Loment notched at the joints equally on both margins, the articles elliptical, orbicular or rhomboidal in outline, reticulate-veined on the surface . . . . . 4
3. Branches rooting freely, often trailing and stoloniferous; bracts ovate to lanceolate, deciduous before anthesis; stipules caducous . . . *D. axillare*  
Branches caespitose, rooting sparingly from the lowest nodes; bracts narrowly lanceolate, persistent at least until anthesis; stipules persistent . . . . . *D. canum*
4. Articles of loment 2, the terminal only fertile, emarginate on one side, 6—7 mm long, puberulent . . . . . *D. glabrum*  
Articles of loment (2)—4—8, all fertile, with hooked-hairs; glandular hairs present at least in inflorescence . . . . . 5
5. Articles of loment linear-oblong, more than twice as long as broad, not twisted; stipules broadly amplexicaul, acuminate . . . . *D. scorpiurus*  
Articles of loment orbicular or rhomboidal, often twisted . . . . . 6
6. Stem erect; stipules conspicuous, semi-cordate, broadly ovate-lanceolate, filiform at the apex, leaflets oblong-ovate, obtuse, uniformly green; bracts lanceolate, soon deciduous . . . . . *D. tortuosum*  
Stem procumbent; stipules small, subulate from an abruptly expanded base; leaflets rhomboid-ovate to ovate-lanceolate, subacute, often with the midrib area distinctly paler; bracts subulate . . . . . *D. procumbens*

#### **Desmodium triflorum (L.) DC.**

DECANDOLLE, Prodr. 2: 334. 1825; GRISEBACH, Fl. Br. W. Ind. Isl. 186. 1859; DUSS, Fl. phan. Ant. franç. 199. 1897; URBAN, Symb. Ant. 4: 289. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 91. 1909; Fl. Ned. W. Ind. Eil. 221. 1913; URBAN, Symb. Ant. 8: 291. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 38. 1920; QUESTEL, Fl. Isl. St. Bartholomew 120.

1941; LEON & ALAIN, Fl. Cuba 2: 324. 1951; WILLIAMS, Fl. Trinidad & Tobago 1: 209. 1931; ARNOLDO, Zakflora 101. 1954; Zakflora 141. 1964; GOODING *et al.*, Fl. Barbados 206. 1965; ADAMS, Flowering plants of Jamaica 373. 1972; — *Hedysarum triflorum* LINNAEUS, Spec. Plant. 749. 1753; — *Sagotia triflora* DUCHASS. & WALPERS, Linnaea 23: 738. 1850; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Islands 5: 404. 1924; — *Meibomia triflora* KUNTZE, Rev. Gen. Plant. 197. 1891.

Prostrate or creeping, diffusely branching herb; stems slender, terete and striate to angular, long-white-pilose. Leaves (1—)3-foliate; petioles 4—10 mm long, long-pilose and uncinately puberulent; leaf-rachis 1—3 mm long, similar to the petiole; terminal leaflet obovate to obcordate, rounded to emarginate at the apex, acute to cuneate at the base, glabrous and reticulate above, usually pilose beneath (or only so on the midrib and the margins), 4—12 × 4—12 mm; the lateral ones similar or more nearly elliptic and a little smaller; petiolules about 1 mm long. Stipules stramineous, obliquely ovate, 2—5 × 1—1.5 mm, long persistent. Inflorescence consisting of 1—4-flowered, axillary or leaf-opposite clusters; pedicels filiform, up to 12 mm long. Bracts ovate-attenuate, 2—3.5 × 0.7—1.5 mm. Calyx bi-lipped, the upper lobe bi-fid and equalling the teeth of the lower lobe in length; the teeth of the lower lobe long-white-pilose with a distinct dark streak along the midrib. Corolla equalling or exceeding the calyx, reddish-purple. Standard orbicular, long-clawed, up to 4.5 × 1 mm; keel scythe-shaped, long-clawed, up to 4.5 × 1—1.5 mm. Fruit not stipitate, 2—5(—6)-articulate, the upper suture straight or slightly reflexed-curved, the lower notched; articles about quadrate, 2.5—4 mm long and wide, reported as not or tardily dehiscent, glabrous to uncinately pubescent. Seed quadrangular to orbicular in outline, 1.5—2 × 1.5—1.8 mm.

Pantropic, extending northward into southern U.S.A.

In pastures and waste grounds; often cultivated.

CURAÇAO: Seroe Christoffel (Arnoldo 36, fl. & fr. Dec.).

ST. MARTIN: mountain between Mont des Accords and Sentry Hill, 200—300 m (Boldingh 2875, st. Aug.); Mount Paradise, 150—400 m (Boldingh 3198, st. Sept.).

ST. EUSTATIUS: without loc. (v. Groll-Meyer s.n.).

#### **Desmodium axillare (Sw.) DC.**

DECANDOLLE, Prodr. 2: 333. 1825; GRISEBACH, Fl. Br. W. Ind. Isl. 187. 1860; DUSS, Fl. phan. Ant. franç. 200. 1897; URBAN, Symb. Ant. 4: 291. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 90. 1909; Fl. Ned. W. Ind. Eil. 220. 1913; URBAN, Symb. Ant. 8: 294. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 34. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 211. 1931; LEON & ALAIN, Fl. Cuba 2: 324. 1951; ADAMS, Flowering plants of Jamaica 375. 1972; — *Hedysarum axillare* SWARTZ, Prodr. Veg. Ind. Occ. 107. 1788; Fl. Ind. Occ. 3: 1274. 1806; — *Desmodium axillare* (Sw.) DECANDOLLE var. *a genuinum* URBAN, Symb. Ant. 2: 303. 1900; B. G. SCHUBERT, Contr. Gray Herb. 85: 80. 1941; — *Desmodium axillare* (Sw.) DECANDOLLE var. *a obtusifolia* (O. KUNTZE) URBAN, Symb. Ant. 4: 291. 1905; — *Meibomia axillaris* (Sw.) O. KUNTZE, Rev. Gen. 1: 195. 1891; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 402. 1924.

Herb; stems trailing, rooting at the nodes, terete to subangular, finely striate, uncinate-puberulent. Leaves 3-foliate; petioles 3—12 cm long, angular, striate, rather densely uncinate-pubescent and somewhat patent-pilose; rhachis up to 5 mm long, short-pilose, and uncinulate-puberulent or pubescent; petiolules 2—4 mm long, brownish rugulose-pilose; leaflets variable, glabrescent to appressed, short-pilose above, prominently reticulate-veined and pilose beneath, slightly revolute; terminal leaflet ovate-elliptic to ovate, rhomboid or less often orbicular, cuneate, broadly acute to obtuse or almost rounded at the apex, acute, obtuse or rounded at the base, 4—9 × 2.5—5.5 cm; lateral leaflets obliquely ovate or ovate-elliptic, obtuse, acute or short-acuminate at the apex, obtuse to cuneate at the base, 3.5—8 × 2—4.5 cm. Stipules caducous, partially connate up to half their length, ovate, long-acuminate or with filiform apex, finely striate, moderately spreading-pilose on the adaxial-side, long-ciliate, 4.5—6 × 5 mm; stipellae linear-lanceolate, striate, ciliate, caducous, 1.5—4 mm long. Inflorescence consisting of axillary and terminal racemes; rhachis up to 40 cm long, finely striate, uncinate-puberulent; pedicels 0.5—1.2 cm long at flower time, up to 1.7 cm in fruit, uncinate-pubescent and with short, stiff, straight hairs. Bracts ovate, acuminate at the apex, 2.5—4.5 × 1.5—2.5 mm, striate and pilose on the back, caducous. Calyx bi-lobed; upper lobe bi-fid, 2—2.5 mm long, lower lobe with 2.5—3.5 mm long central tooth and 2—3 mm long lateral teeth, uncinate-puberulent, with short, straight trichomes along the teeth. Corolla about twice as long as the calyx, crimson fading through purple to blue. Standard obovate, rounded and retuse at the apex, broadly acute, obtuse or truncate at the base, 4—4.5 × 3—5 mm. Wings short-clawed, obliquely obovate, truncate or obtuse at the apex, auriculate at the base, 3.5—4.5 × 1.5—2.5 mm. Keel-petals with broad claws, connate, more or less falcate, obtuse at the apex, 3—4.5 × 2—3.5 mm. Loment stipitate, (1—)2(—3)-articulate, the upper suture shallowly notched, pilosulus along sutures and stipe, pubescent and with short trichomes over the surface; stipe 3—4.5 mm; terminal article (5—)6—7 × 4.4—4.8 mm; subterminal one (5.5—)6—10 × (4.4—)4.6—5.5 mm.

West Indies and tropical continental America.

Common along roadsides, in pastures and in woodland clearings.

Vernacular name: wire width (Windward Group).

SABA: between The Bottom and The Saddle, 300—400 m (Stoffers 3108, fl. & fr. Ap.); ibid., 220—300 m (Stoffers 3103, fl. Ap.); between The Bottom and Mary's Point, 100—200 m (Boldingh 1501, fl. & fr. July); slope of The Mountain at the Rendez-Vous side, 600—680 m (Stoffers 3262, fl. May); The Mountain near Windwardside, 600 m (Boldingh 2184, fl. & fr. July); slope of The Mountain, 800 m (Boldingh 1807, st. July); Castle Hill, seaside, 300—350 m (Stoffers 4161, fl. Aug.; 4165, fl. & fr. Aug.); without loc. (v. Groll-Meyers s.n., st.).

**Desmodium canum** (J. F. Gmel.) Schinz & Thell.

SCHINZ & THELLUNG in SCHELLENBERG, SCHINZ & THELLUNG, Mém. Soc. Neuchâtel 5: 371. 1913; LEON & ALAIN, Fl. Cuba 2: 324. 1951; ARNOLDO, Zakflora 102. 1954; Zakflora

140. 1964; GOODING *et al.*, Fl. Barbados 204. 1965; ADAMS, Flowering plants of Jamaica 375. 1972; — *Hedysarum canum* J. F. Gmelin, Syst. Nat. 2(2): 1124. 1792; — *Meibomia cana* (J. F. Gmel.) BLAKE, Bot. Gaz. 78: 276. 1924; — *Desmodium incanum* (Sw.) DeCANDOLLE, Prodr. 2: 332. 1825; GRISEBACH, Fl. Br. W. Ind. Isl. 186. 1859; Duss, Fl. phan. Ant. franç. 200. 1897; — *Hedysarum incanum* SWARTZ, Prodr. Veg. Ind. Occ. 107. 1788; Fl. Ind. Occ. 3: 1265. 1806. — *Desmodium supinum* (Sw.) DeCANDOLLE, Prodr. 2: 332. 1825; URBAN, Symb. Ant. 4: 290. 1905; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 218. 1909; BOLDINGH, Fl. D.W. Ind. Isl. 1: 91. 1909; Fl. Ned. W. Ind. Eil. 220. 1913; Fl. D.W. Ind. Isl. 2: 42. 1914; URBAN, Symb. Ant. 8: 293. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 33, fig. 10. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 210. 1931; QUESTEL, Fl. Isl. St. Bartholomew 121. 1941; — *Meibomia supina* (Sw.) BRITTON, Ann. N.Y. Acad. Sci. 7: 83. 1892; BRITTON & MILLSPAUGH, Bahama Fl. 184. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 400. 1924; — *Hedysarum supinum* SWARTZ, Prodr. Veg. Ind. Occ. 107. 1788; Fl. Ind. Occ. 3: 1265. 1806.

Spreading to ascending or sometimes erect perennial herb, often becoming a subshrub or shrub; stems striate to angular, reddish, uncinate-puberulent to pubescent and somewhat pilose at least above. Leaves 3-foliolate; petioles 0.5—3.5(—4) cm long, uncinate-puberulent and long-spreading pilose; rhachis up to about 1.5 cm long, similar to the petiole; leaflets variable often on the same plant, commonly elliptic but also ranging from circular at the base via oval and oblong to nearly lanceolate at the top of the stems, acute or obtuse at the apex, rounded to cuneate at the base, lustrous, dark and inconspicuously pubescent above, pale and rather densely pilose beneath, with distinct venation; terminal leaflet (2.5)—4—9(—10) cm long and (1)—1.5—4(—5) cm wide, the lateral up to 6 × 3 cm; petiolules 1—3 mm long, densely stiff pilose. Stipules persistent, partially connate, at least when young, obliquely ovate-acuminate, 3—11 × 1.5—3 mm, soft puberulent; stipellae subulate to linear, up to 8 mm long, ciliate and slightly puberulent. Inflorescence consisting of elongate, terminal and axillary racemes; rhachis angular to grooved, uncinate-puberulent; pedicels usually solitary or sometimes 2—3 together, slender, up to 1 cm long. Bracts narrowly lanceolate, 2—4 mm long; bracteoles 1—2 mm long, puberulent, but often wanting. Calyx 2—3 mm long, uncinate-puberulent and conspicuously pilose. Corolla violaceous. Standard obovate, retuse, 3—5.5 × 4—5 mm. Wings oblong, 3—6 × 1.5—2 mm, clawed for 1/3 their length. Keel-petals straightish, obtuse, equalling the wings. Loment 3—6(—8)-articulate, the upper suture straight, the lower deeply notched to 2/3 their width; articles semi-orbicular, 3.5—5 × 2—3.5 mm, uncinate-pubescent throughout. Seeds obtusely-oblong, 1 mm long and 0.5 mm wide.

CURAÇAO: Choloma (Arnoldo 2048, fl. & fr. Ap.); Hofje of Zuurzak (Boldingh 5388, st., Nov.); Brakkeput (Arnoldo 32, fl., Feb.); Groot Piscadera (Burgers 44, fl. Dec.).

SABA: The Bottom (Arnoldo 540, fl. & fr. Aug.); between The Bottom and Crispine, 220—360 m (Stoffers 2974, fl. & fr. Ap.; 3046, fl. Ap.); between Crispine and Small Rendez-Vous (Stoffers 3051, fr., Ap.; 3056, fl. Ap.); Great Rendez-Vous (Stoffers 3353, fl. May); road to The Mountain (Arnoldo 802, fl. & fr., Aug.); slope of The Mountain at Rendez-Vous side, 600—680 m (Stoffers 3255, fl. & fr., May); slope of The Mountain near Windwardside (Stoffers 3323, fl. & fr., May);

Boldingh 2166, fr., July); slope of The Mountain at „Under the Cliff”, 680 m (Stoffers 4245, fl. & fr., Aug.; 3203 fl., May); between The Bottom and Saddle, 300—400 m (Stoffers 3104, fr., Ap.); Ladder Gut, 0—100 m (Stoffers 2814, fl. & fr., Ap.); Bottom Hill, 250—275 m (Stoffers 2916, fr. Ap.; 3136, fr. May); top of the cliff near the sea-side of Booby Hill (Boldingh 1605, fl., July); along roads between The Bottom and Windwardside, 200 m (Boldingh 1281, fl., July; Stoffers 4615, fl. March; 4623, fl. March); Ladder Gut (Suringar s.n., fr. Ap. [L]); Gain Bay Gut (Suringar s.n., fl. Ap. [L]); Rendez-Vous (Suringar s.n., fl. & fr., Ap. [L]); Crispine-Rendez-Vous (Suringar s.n., fl. Ap. [L]).

St. EUSTATIUS: Slope of The Quill, 300 m (Arnoldo 3189, fl., Dec.; Suringar s.n., fl., May [L]; Suringar s.n., fl. & fr., Ap. [L]); ibid. western side, 250—300 m (Stoffers 4716, fl., Aug.); ibid. near Bengalen, 50—200 m (Boldingh 642, fr., June; 675, st., June); top of The Quill, 380 m (Boldingh 273, fl., June); along roads in Oranjestad (Boldingh 1093, defl. June); near Mary Glory, 150 m (Boldingh 1142, fl. & fr., June); Cultuurvlakte (Suringar s.n., fl. & fr. May [L]); without loc. (Boldingh 725, flb.; Suringar s.n., fl. & fr., Ap. [L]).

St. MARTIN: Naked Boy Hill, 50—200 m (Boldingh 2702, flb. Aug.); along roads in Cul de Sac (Boldingh 2998, defl. Aug.); top of hill along northern side of Cul de Sac, 200—300 m (Boldingh 3012, flb. Aug.); Mount Paradise, 150—400 m (Boldingh 3199, st., Sept.); Sentry Hill (Suringar s.n., fl. May [L]); French Frontier (Suringar s.n., fl. May [L]); near Guana Bay (Suringar s.n., fl. May [L]).

Island? Boldingh s.n., st.

#### **Desmodium glabrum** (Mill.) DC.

DECANDOLLE, Prodr. 2: 338. 1825; LEON & ALAIN, Fl. Cuba 2: 327. 1951; ARNOLDO, Zakflora 104, fig. 130. 1954; Zakflora 140, fig. 130. 1964; ADAMS, Flowering plants of Jamaica 374. 1972 — *Hedysarum glabrum* MILLER, Gard. Dict. ed. 8. no. 12. 1768; — *Hedysarum molle* VAHL, Symb. 2: 83. 1791; — *Desmodium molle* (VAHL) DECANDOLLE, Prodr. 2: 332. 1825; GRISEBACH, Fl. Br. W. Ind. Isl. 188. 1859; DUSS, Fl. phan. Ant. franç. 202. 1897; URBAN, Symb. Ant. 4: 292. 1905; BOLDINGH, Fl. Ned. W. Ind. Eil. 220. 1913; Fl. D.W. Ind. Isl. 2: 42. 1914; URBAN, Symb. Ant. 8: 294. 1920; — *Meibomia mollis* (VAHL) KUNTZE, Rev. Gen. Plant. 198. 1891; BRITTON & MILLSPAUGH, Bahama Fl. 184. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 403. 1924.

Shrubby herb, up to 1 m or more tall; stems erect, terete and slightly ribbed, velvety pubescent and sparsely uncinate-pubescent. Leaves 3-foliate; petiole 1—3(—7) cm long, pubescent as the stems; rhachis similar, 0.5—1.5 cm long; leaflets ovate, ovate-triangular to lanceolate, acute to acutish at the top, obtuse or rounded at the base, soft and velvety to the touch on both sides, 2—7(—9) cm long and 1.5—4.5(—5) cm wide, the lateral ones similar but smaller and inequilateral. Stipules lanceolate, semi-cordate at the base, acuminate, about 5 mm long, ciliate and velvety pubescent, often reflexed; stipellae aristate, about 4 × 1 mm. Inflorescence consisting of terminal and axillary racemes or paniculate racemes; rhachis slightly ribbed, puberulous. Primary bracts ovate to lanceolate, 2 mm long, puberulous and ciliate, deciduous; secondary bracts similar but smaller. Flowers usually 3 together; pedicels ascending, 4—7 mm long with pubescence similar to that of the rhachis. Calyx 2.5—3 mm long, its

teeth linear-lanceolate, uncinate-pubescent. Corolla purplish, about 3 mm long. Standard obovate,  $3 \times 2$  mm, the very short claw included. Wings obliquely oblong, auriculate, c.  $2.2 \times 1$  mm, its claw 0.5 mm long. Keel-petals obliquely oblong, falcate, connate,  $2-2.2 \times 1$  mm, their claws nearly 1 mm long. Loment nearly sessile, 2-articulate, notched at the joint equally on both margins, the terminal article fertile, the other sterile and spirally or occasionally both fertile; fertile article orbicular or elliptic, strongly reticulate, sparingly pubescent or glabrate, ciliate.

Tropical continental America, Greater Antilles, Virgin Islands, Bahamas, Martinique, Curaçao, and Bonaire.

In dry thickets.

Vernacular name: pika glasko (Leeward Group).

BONAIRE: Rincón (Boldingh 7160, fl. & fr. Jan.); Playa pa bao (Arnoldo 416, fl. & fr. Feb.).

CURAÇAO: Ronde Klip (Arnoldo 1819, fl. & fr. Dec.); hills near St. Joris Baai (Britton & Shafer 3099, fl. March); Caracas Baai? (Boldingh 4796, fl. & fr. Jan.); Hofje of Knip (Boldingh 5491, flb. Nov.); Gasparito (Lens sub Went 818, fl. & fr. Dec.); Zuikertuintje (Suringar s.n., fl. & fr. Feb. [L]); Savonet (Suringar s.n., fl. & fr. Jan. [L]); without loc. (Aschenberg s.n., flb.).

SABA: along roads from The Bottom to Windwardside, 200 m (Boldingh 1327, fl. & fr. July).

#### **Desmodium scorpiurus (Sw.) Desv.**

DESVAUX, Journ. Bot. Appliq. 1: 122. 1813; GRISEBACH, Fl. Br. W. Ind. Isl. 187. 1859; DUSS, Fl. phan. Ant. franç. 201. 1897; URBAN, Symb. Ant. 4: 293. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 90. 1909; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 218. 1909; URBAN, Symb. Ant. 8: 295. 1920; FAWCETT & RENDLE, Fl. Jamaica 4(2): 37. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 213. 1931; LEON & ALAIN, Fl. Cuba 2: 325. 1951; ADAMS, Flowering plants of Jamaica 374. 1972; — *Hedysarum scorpiurus* SWARTZ, Prodr. Veg. Ind. Occ. 107. 1788; Fl. Ind. Occ. 3: 1269. 1806; — *Meibomia scorpiurus* (Sw.) KUNTZE, Rev. Gen. Plant. 198. 1891; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 403. 1924; — *Desmodium uncinatum* DECANDOLLE, Prodr. 2: 331. 1825.

Perennial herb; stems prostrate or spreading, up to 1 m long, angular and slightly striate, uncinate-pubescent and somewhat puberulous. Leaves 3-foliolate; petiole 1—2 cm long, pubescent as the stems; rhachis similar as the petiole, up to 5 mm long; leaflets elliptic or obovate-elliptic, rounded or obtuse at the apex, rounded at the base, uncinate-pubescent on both surfaces; terminal leaflet  $1-3 \times 0.4-1$  cm, the lateral ones similar but slightly inequilateral,  $0.8-2 \times 0.5-0.8$  cm. Stipules ovate, acuminate at the apex, one-sided auriculate,  $2.5 \times 1$  mm; stipellae linear, 1 mm long. Inflorescence consisting of terminal and axillary racemes; the rhachis uncinately-puberulent and glandular pilose; pedicels with pubescence similar to the rhachis, ascending to spreading at maturity, about 0.5 cm long. Primary bracts ovate-attenuate,  $2 \times 0.5$  mm,

puberulent; secondary bracts similar but distinctly smaller, 1.5—0.5 mm. Calyx about 2.5 mm long, its teeth linear-lanceolate. Corolla pink, rapidly fading to pale blue or whitish. Standard broadly obovate, cuneate at the base,  $5 \times 3$  mm, its claw very short. Wings obliquely oblong, auriculate,  $3 \times 1$  mm, its claw c. 1 mm long. Keel-petals obliquely broad-oblong, more or less falcate, connate,  $3 \times 1$  mm, their claws 1.5 mm long. Loment short-stipitate, 4—7-articulate, notched at the joints equally on both margins; articles linear-oblong, 4—5 mm long, more than twice as long as wide, not twisted, uncinately pubescent.

From Mexico to Peru, Greater Antilles, Virgin Islands, St. Kitts, Antigua to Trinidad, introduced into the tropics of the Old World.

SABA: The Bottom, 220 m (Arnoldo 556, fl. & fr., Aug.; Stoffers 2842, fl. & fr., Ap.); slope of The Mountain near Windwardside, 450—475 m (Stoffers 3324, fl. & fr. May).

ST. EUSTATIUS: Cultuurvlakte (Suringar s.n., fl. & fr. May [L]); Fairplay (Suringar s.n., flb. & fr. Ap. [L]); beach, West Side (Suringar s.n., fl. & fr. Ap. [L]).

**Desmodium tortuosum (Sw.) DC.**

DECANDOLLE, Prodr. 2: 332. 1825; CRISSEBACH, Fl. Br. W. Ind. Isl. 188. 1859; DUSS, Fl. phan. Ant. franç. 201. 1897; URBAN, Symb. Ant. 4: 293. 1905; BOLDINGH, Fl. D.W. Ind. Isl. 1: 91. 1909; URBAN, Symb. Ant. 8: 295. 1920; QUESTEL, Fl. Isl. St. Bartholomew 121. 1941; LEON & ALAIN, Fl. Cuba 2: 325. 1951; CODDING et al., Fl. Barbados 205. 1965; ADAMS, Flowering plants of Jamaica 374. 1972; — *Hedysarum tortuosum* SWARTZ, Prodr. Veg. Ind. Occ. 107. 1788; — *Meibomia tortuosa* (Sw.) KUNTZE, Rev. Gen. Plant. 198. 1891; BRITTON & MILLSPAUGH, Bahama Fl. 184. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 403. 1924; — *Hedysarum purpureum* MILLER, Card. Dict. ed. 8. 1768; — *Meibomia purpurea* (MILLER) VAIL in SMALL, Fl. S.E. Unit. States 639. 1903; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 403. 1924; — *Desmodium purpureum* (MILLER) FAWCETT & RENDLE, Fl. Jamaica 4(2): 36. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 211. 1931.

Erect or straggling, annual or perennial herb, up to 1(—1.5) m tall, often woody at the base; stems terete, striate, uncinately pubescent and somewhat pilose. Leaves 3- (or rarely 1-) foliolate, petiolate; petiole up to 5 cm long, pubescent as the stem; rhachis similar, up to 2.5 cm long; leaflets elliptic to ovate, obtuse at the apex and cuneate at the base, prominently reticulate-veined, uncinate-puberulent and pilose on both surfaces, ciliate; terminal leaflet 2—8(—10)  $\times$  1—3(—4) cm, the lateral ones similar but somewhat inequilateral at the base 1—4(—4.5)  $\times$  0.5—3 cm. Stipules obliquely ovate-attenuate, 3—12.5  $\times$  1—7 mm, striate, ciliate, puberulent but becoming glabrous in age, long-persistent and often reflexed; stipellae similar, 5—6  $\times$  1 mm. Inflorescence consisting of axillary and terminal racemes or paniculate racemes; rhachis striate, uncinate-puberulent, moderately to densely and finely glandular-pilose, becoming less dense in age. Primary bracts each subtending 2 or more pedicels, narrowly ovate-attenuate, 3—6.5  $\times$  0.5—1.5 mm, striate, minutely puberulent on abaxial surface; secondary bracts subtending 1 pedicel, similar but smaller, 1.9—2.1  $\times$

0.5 mm; pedicels rather stiff and ascending to spreading at maturity, up to about 1.5 mm long, with pubescence similar to that of the rhachis. Calyx minutely puberulent and rather abundantly pilose throughout, teeth of both lobes somewhat ciliate; central tooth of lower lobe long-attenuate, 3—4 mm long, the lateral teeth 2—3 mm; upper bi-fid lobe 2—3 mm long. Corolla white or pink to lilac, fading to mauve, or green with mauve or red margins. Standard obovate, slightly retuse at apex and gradually narrowing to the base, 2.5—3.5 × 2 mm. Wings obliquely oblong, auriculate and shortly clawed, 2.5—3.5 × 1—1.5 mm. Keel-petals obliquely oblong, broader above, clawed for about  $\frac{1}{3}$  of their length, 3—4 × 1 mm. Loment stipitate, 5—7-articulate, notched at the joints equally on both margins, valves often twisted; articles orbicular in outline, sometimes with margins alternately revolute and so appearing rhomboidal, 3—5 × 2.5—4 mm, uncinately pubescent. Seeds reniform, 1.5—1 mm.

Tropical and subtropical America; introduced and naturalized throughout the tropics of the Old World.

On roadsides and in waste places.

SABA: Ladder Gut, 0—200 m (Suringar s.n., fl. & fr. Ap. [L]; Boldingham 1969, fr. July); road to The Mountain (Arnoldo 816, fl. & fr. Aug.); from The Bottom to Crispine, 220—300 m (Stoffers 2942, fl. & fr. Ap.); Gain Bay Gut (Suringar s.n., fr. Ap. [L]); Ladder Bay (Suringar s.n., fr. Ap. [L]); without loc. (Boldingham 1504a, st.).

ST. EUSTATIUS: along roads in Cultuurvlakte (Stoffers 3812, fr., July; 3817, fr., July).

ST. MARTIN: hills along northern side of Cul de Sac (Boldingham 3445a, fr., Aug.).

#### **Desmodium procumbens (Mill.) Hitchc.**

HITCHCOCK, Rep. Miss. Bot. Gard. 4: 76. 1893; URBAN, Symb. Ant. 8: 295. 1920; WILLIAMS, Fl. Trinidad & Tobago 1: 212. 1931; QUESTEL, Fl. Isl. St. Bartholomew 121. 1941; LEON & ALAIN, Fl. Cuba 2: 325. 1951; ARNOLDO, Zakflora 102. 1954; Zakflora 140. 1964; COODING et al., Fl. Barbados 205. 1965; ADAMS, Flowering Plants of Jamaica 374. 1972; — *Hedysarum procumbens* MILLER, Gard. Dict. ed. 8. 1768; — *Meibomia procumbens* (MILLER) BRITTON in BRITTON & WILSON, Sci. Surv. Poto Rico & Virgin Isl. 5: 404. 1924; — *Hedysarum spirale* SWARTZ, Prodr. Veg. Ind. Occ. 107. 1788; Fl. Ind. Occ. 3: 1263, 1806; — *Desmodium spirale* (Sw.) DE CANDOLLE, Prodr. 2: 332. 1825; GRISBACH, Fl. Br. W. Ind. Isl. 188. 1859; DUSS, Fl. phan. Ant. franç. 201. 1897; URBAN, Symb. Ant. 4: 293. 1905; JOHNSTON, Proc. Bost. Soc. Nat. Hist. 34(7): 218. 1909; BOLDINGH, Fl. D.W. Ind. Isl. 91. 1909; Fl. Ned. W. Ind. Eil. 220. 1913 p.p.; Fl. D.W. Ind. Isl. 2: 42. 1914; — *Meibomia spiralis* (Sw.) KUNTZE, Rev. Gen. 1: 197. 1891.

Herb with spreading or diffusely scrambling, often very long branches; stems slender or a few stout, subangular, sparsely to densely uncinate-hispidulous or glabrate, arising from the base. Leaves 3-foliolate; petiole ribbed, up to 5 cm long, uncinate-puberulent; leaf-rhachis similar to the petiole; terminal leaflet elliptic, slenderly to rather broadly ovate or rhomboid, acute or obtuse at the

apex, broadly acute to rounded or truncate at the base,  $1-5 \times 0.5-2$  cm, glabrous to moderately strigose or uncinate-puberulent on both sides and often ciliate; lateral leaflets linear-lanceolate or elliptic to ovate or rhomboid, acute or obtuse at the apex, obtuse or truncate at the base,  $0.5-4 \times 0.3-2$  cm. Stipules small, subulate from an extended base, up to 5 mm long; stipellae subulate, ciliate, up to 2.5 mm long. Inflorescence consisting of axillary and terminal, simple or somewhat compound paniculate racemes; rachis sub-angulate, uncinate-puberulent and somewhat patent-pilose; pedicels slender, up to 1.25 cm long. Bracts linear-lanceolate, about 2 mm long. Calyx 2 mm long, strigose. Corolla exceeding the calyx, white to pink. Standard obovate, becoming retuse in age,  $2.5-3.5 \times 2.5-3.2$  mm. Wings about equalling the standard. Keel-petals somewhat larger than the wings, the claw up to 4 mm long. Loment 4—6-articulate, notched at the joints equally on both margins; articles twisted, orbicular to rhomboidal, 3—4 mm long, uncinate-hispidulous.

West Indies; Central America and Tropical South America.

In dry thickets.

**ARUBA:** Companishi (Arnoldo 80, fl. & fr., Dec.); Seroe Largo (Stoffers 1885, fl., Jan.; 1875, fl. & fr., Jan.); Rood Taki (Arnoldo 228, fl. & fr., Dec.; Stoffers 1891, fr. Jan.); Miramar (Stoffers 2208, fr. Feb.; 2183, fr. Feb.); slope of Miramar (Boldingh 6449, fr., Jan.; 6452b, fl. & fr., Jan.; 6453i, fl. & fr. Feb.); calcareous soil near San Nicolas (Boldingh 6490, fr. Jan.).

**BONAIRE:** hills near Rincón (Boldingh 7078, fr. Jan.); Rincón (Boldingh 7027, fr. Jan.).

**CURAÇAO:** Groot Santa Marta (Arnoldo 1859, flb. Jan.); Seroe Christoffel (Stoffers 1209, flb. Dec.; Arnoldo 1919, fl. & fr. Feb.); fields near Willemstad (Britton & Shafer 2909, fr. March); Hofje of Knip (Boldingh 5496, fr. Nov.); Malpais? (Boldingh s.n., fl. & fr. Oct.); Savonet (Suringar s.n., fl. & fr. Jan. [L]); Hato (Suringar s.n., fl. & fr. Jan. [L]); Pos Kajuda (Stoffers 8069A, fl. Dec.).