## PASSIFLORACEAE

by

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Herbaceous or woody vines and then climbing by means of axillary tendrils, or subscandent shrubs; stems terete or 3—5-angled. Leaves alternate, simple or rarely compound, entire or lobed. Stipules present or wanting. Flowers axillary, solitary or usually in pairs, sometimes in racemes or panicles, actinomorphic, hermaphrodite or rarely unisexual. Receptacle flattish, saucer-like or bell-shaped. Sepals 5, free or basically connate, often provided with a small horn near the apex, imbricate, persistent. Petals 5 or rarely wanting, free or basically connate, imbricate. Corona of one or several series, rarely wanting. Stamens 5 (or 4—8 or numerous); filaments united in the lower part to form a tubular membrane closely adherent to the gynophore; anthers 2-celled, dehiscing longitudinally. Ovary superior, 1-celled, 3—5-carpelled; styles usually 3—5, free or united. Ovules numerous on 3—5 parietal placentas, anatropous. Fruit a berry or a capsule. Seeds numerous, usually compressed, covered with a fleshy aril or pulp. Embryo straight, large. Endosperm fleshy.

About 600 species in 12 genera, predominantly in tropical America.

# Passiflora Linnaeus, Spec. Plant. 955. 1753

Herbaceous or woody vines. Leaves petiolate, alternate, simple or compound, entire or lobed; petiole and blade often with distinct glands. Inflorescence axillary, simple or rarely compound. Flowers hermaphrodite. Receptacle patelliform, campanulate, funnelform or cylindric. Sepals 5, fleshy or membranaceous, dorsally corniculate or aristate below the apex. Petals 5 or wanting, membranaceous. Corona of one or several series of free or more or less united filaments, rarely tubular. Operculum within (or below) the corona, membranaceous, flat or plicate, entire, rarely wanting. Nectarium an annular ridge within (or below) the operculum, sometimes wanting. Limen borne close to the base of the gynophore, annular or cupuliform, sometimes wanting. Stamens 5; filaments monadelphous in a tube closely adnate to the gynophore, distinct above, the free parts at first erect, at length reflexed, attached at the back of the anther near its middle; anthers linear, ovate or oblong. Ovary globose, ovoid or fusiform, usually on an elongate gynophore; styles 3, free or united at the

base, cylindric or clavate; stigmas capitate or reniform. Fruit a berry, globose or rarely fusiform, containing a mucilaginous pulp. Seeds reticulate, punctulate or transversely grooved.

About 400 species in the tropics, mostly in America.

# Key to the species:

1.	Petioles eglandular
2.	Stipules deeply cut, the divisions threadlike and gland-tipped; bracts pinnatifid with filiform and gland-tipped segments P. foetida
	Stipules and bracts entire or wanting
3.	Stipules sestaceous; bracts wanting; corona filaments in 1 or 2 series  P. rubra
	Stipules narrowly linear; bracts ovate or suborbicular, 1—1.5 cm long; corona filaments in several series
4.	Bracts minute, setaceous, soon deciduous; petals wanting; corona filaments in 2 series
	Bracts at least $2 \times 1$ cm; petals present; corona filaments in $4-6$ series
5.	Leaves entire
	Leaves deeply 3-lobed
6.	Stems 4-angled, the angles conspicuously winged; petiole 2—5 cm long, 6-glanded; leafblade membranaceous
	Stems not winged; petiole 0.5—1.5 cm long with 2 glands at the apex; leafblade thick-coriaceous

#### Passiflora suberosa L.

LINNAEUS, Spec. Plant. 958. 1753; GRISEBACH, Fl. Br. W. Ind. Isl. 290. 1860; Duss, Fl. phan. Ant. franç. 311. 1897; Boldingh, Fl. D. W. Ind. Isl. 1: 139. 1909; Fl. Ned. W. Ind. Eil. 293. 1913; Fl. D. W. Ind. Isl. 2: 70. 1914; Fawcett & Rendle, Fl. Jamaica 5(3): 238. 1926; Killip, Field Mus. Nat. Hist. Bot. Ser. 19: 88. 1938; Cheesman in Williams, Fl. Trinidad & Tobago 1(7): 429. 1940; Questel, Fl. Isl. St. Bartholomew 155. 1941; Arnoldo, Zakflora 129, fig. 50. 1954; Zakflora 175, fig. 50. 1964; — Passiflora pallida Linnaeus, Spec. Plant. 955. 1753; Grisebach, Fl. Br. W. Ind. Isl. 291. 1860; Britton & Millspaugh, Bahama Fl. 288. 1920; Britton & Wilson, Sci. Surv. Porto Rico & Virgin Isl. 5: 602. 1924; — Passiflora hirsuta Linnaeus, Spec. Plant. 958. 1753; Grisebach, Fl. Br. W. Ind. Isl. 291. 1860; — Passiflora minima Linnaeus, Spec. Plant. 959. 1753; Grisebach, Fl. Br. W. Ind. Isl. 290. 1860; Duss, Fl. phan. Ant. franç. 311. 1897; — Passiflora angustifolia Swartz, Prodr. 97. 1788; Grisebach, Fl. Br. W. Ind. Isl. 291. 1860; — Passiflora suberosa L. var. minima Masters, Trans. Linn. Soc. 27: 630. 1871; in Martius, Fl. Bras. 13(1): 579. 1872;

Urban, Symb. Ant. 4: 424. 1910; Symb. Ant. 8: 451. 1920; — Passiflora suberosa L. var. hirsuta Masters, Trans. Linn. Soc. 27: 630. 1871; in Martius, Fl. Bras. 13(1): 579. 1872; — Passiflora suberosa L. var. angustifolia Masters, Trans. Linn. Soc. 27: 630. 1871; in Martius, Fl. Bras. 13(1): 579. 1872; Urban, Symb. Ant. 4: 425. 1910; Symb. Ant. 8: 541. 1920; — Passiflora suberosa L. var. pallida Masters, Trans. Linn. Soc. 27: 630. 1871; in Martius, Fl. Bras. 13(1): 579. 1872; Urban, Symb. Ant. 4: 425. 1910; Symb. Ant. 8: 452. 1920; — Passiflora suberosa L. var. hederacea Masters, Trans. Linn. Soc. 27: 630. 1871; in Martius, Fl. Bras. 13(1): 579. 1872; Urban, Symb. Ant. 8: 452. 1920; Grisebach, Fl. Br. W. Ind. Isl. 291. 1860; — Passiflora suberosa L. var. lineariloba Masters in Martius, Fl. Bras. 13(1): 579. 1872; Urban, Symb. Ant. 4: 425. 1910; Symb. Ant. 8: 452. 1920.

Glabrous or densely pubescent vine; the lower parts of the stem corky. Leaves petiolate; petiole up to 3 cm long, biglandular, the glands borne above the middle of the petiole, stipitate and less than 0.5 mm in diam.; blade membranaceous or subcoriaceous, highly variable, entire, 3-lobed or 3-partite, rounded or occasionally peltate at the base, up to 9 × 9 cm; lobes narrowly linear to broadly ovate or triangular, subcreet or widely divergent, the middle one larger than the lateral ones, acute or obtuse and mucronate at the apex. Stipules linear-subulate, 6-8 mm long. Flowers solitary or in pairs in the axils of the leaves, up to 3 cm in diam. Bracts minute, setaceous, soon deciduous, Receptacle saucer-shaped. Sepals ovate-lanceolate, subobtuse at the apex, greenish-yellow, 8-12 mm long. Petals wanting. Corona filaments in two series, filiform, the outer ones recurved, white, yellow near the apex and purple near the base, the inner ones capitellate. Operculum membranaceous, plicate, minutely fimbrillate, white, the margin incurved. Limen annular. Ovary glabrous, subglobose or ovoid. Berry globose or ovoid, purple or black, 6-15 mm in diam. Seeds flattened, slightly curved, 3-4 mm long, 2 mm wide, coarsely reticulate.

Common throughout tropical continental America (except the Guiana's where the species is absent or rare) and West Indies; introduced in the tropics of the Old World. In thickets and woodlands, ascending to higher elevations.

Vernacular names: beshi di tinta, nebuha (Leeward Group).

ARUBA: along roads near Oranjestad (Stoffers 2036, fr. Feb.); Playa (Arnoldo 187, fr. Dec.); along roads near Savaneta (Boldingh 6515, fr. Jan.); Fontein (Stoffers 1693, fl. & fr. Jan.).

Bonaire: calcareous plateau of Montagne (Boldingh 7396, fl. & fr. Feb.); calcareous hills near Rincón (Boldingh 7042, st. Feb.); Soebi Rincón (Boldingh 7263, fl. & fr. Feb.); Fontein (Stoffers 545, fr. Nov.).

CURAÇAO: near Westpunt (Boldingh 4926, fr. Nov.); Veeris Berg (Boldingh 4726, fl. Oct.); Willemstad (Stoffers 422, fl. Oct.); Santa Marta (Britton & Shafer 2975, flb. March); strand near Saltponds of St. Willebrordus (Stoffers 376, fl. & fr. Oct.); Rooi Beru (Stoffers 209, fl. Oct.); near top of Seroe Christoffel (Stoffers 1304, fl. Dec.); without loc. (Boldingh 5107, fl.).

Saba: Booby Hill (Arnoldo 796, st. Aug.); between Windwardside and Hellsgate (Boldingh 1668, st. July); Windwardside (Arnoldo 641, st. Aug.); Castle Hill, 300-350 m (Stoffers 4140, st. Aug.); without loc. (Lionarons 314, st.).

ST. EUSTATIUS: gut near Fort de Windt (Boldingh 837, st. June); top of The Quill, 400 m (Boldingh 192, st. June; 313, st. June); id. 500 m (Boldingh 490, st. June); id. 450 m (Boldingh 342, st. June); slope of The Quill near Bengalen, 200 m (Boldingh 690, fr. June; Stoffers 3781, st. July); id., lower part (Boldingh 713, st. June); northern slope of The Quill (Stoffers 3996, st. July); without loc. (v. Groll-Meyer 271, fr.).

ST. MARTIN: Naked Boy Hill, 200-265 m (Boldingh 2721, st. Aug.); id. 280 m (Boldingh 2734, st. Aug.); near Mullet Pond (Boldingh 2757, st. Aug.; 2764, fr. Aug.); near Bellevue (Boldingh 2834, st. Aug.); mountain between Mont des Accords and Sentry Hill, 200-300 m (Boldingh 2871, st. Aug.).

#### Passiflora laurifolia L.

LINNAEUS, Spec. Plant. 956. 1753; GRISEBACH, Fl. Br. W. Ind. Isl. 293. 1860; Duss, Fl. phan. Ant. franç. 312. 1897; Johnston, Proc. Bost. Soc. Nat. Hist. 34(7): 240. 1909; Boldingh, Fl. D. W. Ind. Isl. 1: 138. 1909; Urban, Symb. Ant. 4: 428. 1910; Boldingh, Fl. Ned. W. Ind. Eil. 293. 1913; Urban, Symb. Ant. 8: 456. 1920; Britton & Wilson, Sci. Surv. Porto Rico & Virgin Isl. 5: 601. 1924; Fawcett & Rendle, Fl. Jamaica 5(3): 235. 1926; Killip, Field Mus. Nat. Hist., Bot. Ser. 19: 365. 1938; Cheesman in Williams, Fl. Trinidad & Tobago 1(7): 435. 1940; Questel, Fl. Isl. St. Bartholomew 155. 1941; Arnoldo, Gekw. en nutt. pl. Ned. Ant. 102. 1954.

Glabrous, woody vine; stems terete, striate, up to 10 m long. Leaves petiolate; petiole stout, 0.5—1.5 cm long, biglandular at the apex, the glands oblong, sessile, 1-1.5 mm in diam.; blade entire, glabrous, thick coriaceous, oneveined, strongly reticulate-veined, elliptic, ovate or oblong, subacute, rounded or obtuse and usually mucronulate at the apex, rounded or subcordate at the base, 6-14 × 3-8 cm. Stipules linear, 3-7 mm long, coriaceous. Flowers 6-9 cm in diam., solitary in the axils of the leaves, involucrated by 3 large, foliaceous bracts; peduncle up to 6 cm long, stout. Bracts ovate-oblong, 2.5-4 × 2-2.5 cm, obtuse at the apex, narrowed at the base, finely puberulent and provided with large marginal glands toward the apex. Receptacle cylindriccampanulate, about 1 cm long. Sepals oblong, 2-2.5 × 1 cm, obtuse and corniculate dorsally just below the apex. Petals slightly smaller than the sepals. Corona filaments in 6 series transversely banded with white and red, blue or purple; the filaments of the outermost series ligulate, about 2 cm long; those of the second series ligulate, 3-4 cm long and 2 mm broad; those of series 3-5 barely 1 mm long; the innermost filaments 1.5 mm long. Operculum membranaceous, horizontal, the margin recurved, minutely denticulate. Limen cupuliform, closely surrounding the base of the gynophore. Ovary ovoid, sericeo-tomentose. Fruit ovoid, 5-8 cm long and 4 cm in diam. Seeds obcordate, 5-7 mm long and 3-5 mm wide, finely reticulate. Fruit edible.

Throughout the West Indies and from northern Venezuela to Amazonian Peru and eastern Brazil. Extensely cultivated in the tropics. In the islands of the Windward Group probably escaped from cultivation.

In thickets and woodlands at low and middle elevations.

Vernacular name: bell apple (Windward Group).

SABA: The Bottom (Boldingh 2272, fl. July).

ST. EUSTATIUS: top of The Quill, 400 m (Boldingh 290, st. June; 249, st. June); id. 400-480 m (Stoffers 3945, st. July; 3938, st. July); slope of The Quill between Glass Bottle and White Wall, 240 m (Stoffers 4068, st. Aug.); slope of The Quill near Bengalen, 250 m (Boldingh 701, st. June); Oranjestad (Boldingh 526, fl. June); without loc. (v. Groll-Meyer 144, fl.).

St. Martin: Mount Paradise, 300-400 m (Boldingh 3333, st. Sept.).

## Passiflora quadrangularis L.

LINNAEUS, Syst. ed. 10, 1248. 1759; GRISEBACH, Fl. Br. W. Ind. Isl. 293. 1860; Duss, Fl. phan. Ant. franç. 313. 1897; BOLDINGH, Fl. D. W. Ind. Isl. 1: 139. 1909; URBAN, Symb. Ant. 4: 428. 1910; BOLDINGH, Fl. Ned. W. Ind. Eil. 293. 1913; URBAN, Symb. Ant. 8: 455. 1920; BRITTON & WILSON, Sci. Surv. Porto Rico & Virgin Isl. 5: 604. 1924; FAWCETT & RENDLE, Fl. Jamaica 5(3): 235. 1926; Killip, Field. Mus. Nat. Hist., Bot. Ser. 19: 335. 1938; Arnoldo, Gekw. en nutt. pl. Ned. Ant. 102. 1954.

Glabrous, woody vine; stem 4-angled; the angles conspicuously winged. Leaves petiolate; petiole 2-5 cm long, stout, canaliculate above, 6-glandular; the glands in pairs and nearly sessile, about 1 mm in diam.; blade entire, ovate, ovate-oblong or suborbicular, abruptly acuminate at the apex, cordate, subcordate or rounded at the base,  $10-20 \times 8-16$  cm, the midvein prominent, the principal lateral veins 10-12 to a side. Stipules ovate or ovate-lanceolate, 2-3.5 × 1-2 cm, acute at the apex, narrowed at the base, entire or slightly serrulate, membranaceous. Flowers solitary in the axils of the leaves, 8-10 cm in diam., involucrated by 3 large, foliaceous bracts; peduncle 1.5-3 cm long, 3-angled. Bracts cordate-ovate, 3-5.5 × 1.5-4 cm, acute or acutish at the apex, entire or serrulate toward the base, membranaceous. Receptacle campanulate. Sepals ovate to ovate-oblong, 3-4 × 1.5-2.5 cm, concave, corniculate, greenish or greenish-red outside, white, violet or pink within. Petals oblong-ovate to oblong-lanceolate,  $3-4.5 \times 1-2$  cm, obtuse, flat, white, pink-tinged. Corona filaments in 5 series; those of the outer two series up to 6 cm long, terete, radiate, banded with reddish-purple and white at the base, blue at the middle and densely mottled with pinkish-blue in the upper half; those of the third series tubercular, the tubercles clavate, 2 mm long, deep reddish-purple; those of the fourth series 1-1.5 cm long, banded with reddishpurple and white; those of the innermost series membranaceous, 3-7 cm long, unequally lacerate-cleft, slightly inclined inward. Operculum membranaceous, 4-6 mm long, inclined inward, denticulate, white, reddish-purple at the margin. Limen annular, fleshy. Gynophore stout, enlarged in lower third by 2 annular processes (trochlea). Ovary ovoid. Fruit oblong-ovoid, 20-30 × 12-15 cm, terete or longitudinally 3-grooved. Seeds broadly obcordate or suborbicular, 7-10 × 5-8.5 mm, flattened, reticulate at the centre of each face, radiately striate at the margin.

Origin uncertain; cultivated throughout tropical America.

Vernacular name: granadilla (Windward Group).

SABA: The Bottom (Boldingh 2262, st. July); without loc. (Lionarons 305, st.). St. Eustatius: without loc. (v. Groll-Meyer 24, fl.).

#### Passiflora edulis Sims

Sims, Bot. Mag. 45: t. 1989. 1818; FAWCETT & RENDLE, Fl. Jamaica 5(3): 233, fig. 93. 1926; KILLIP, Field Mus. Nat. Hist., Bot. Ser. 19: 398. 1938; Arnoldo, Gekw. en nutt. pl. Ned. Ant. 289. 1954.

Glabrous, high-climbing, woody vine; stems somewhat angled, not winged, striate. Leaves petiolate; petiole up to 4 cm long, biglandular at the apex; the glands sessile or short-stipitate, usually less than 1 mm in diam.; blade deeply 3-lobed, rounded or somewhat cordate at the base, upper surface shining, 5-12 cm long along the midvein, 4-10 cm long along the lateral veins, 7-11 cm between the tops of the lateral lobes; the lobes oblong to elliptic, acute, acuminate or rarely subobtuse at the apex, serrate. Stipules linear-awl-shaped, about 1 cm long and 1 mm wide, entire or minutely glandular-serrulate. Flowers solitary in the axils of the leaves, 4-6 cm or more in diam., involucrated by 3 leafy bracts; the peduncle stout, up to 6 cm long. Bracts ovate, obtuse or acute at the apex, 2-2.5 × 1-1.5 cm, serrate and usually glandular at the margin. Receptacle bell-shaped, slightly fleshy. Sepals oblong, 3-3.5 × 1 cm, corniculate near the apex, green outside, white within. Petals oblong,  $2.5-3 \times 0.5-0.7$  cm, obtuse at the apex, white. Corona filaments in 4 or 5 series, those of the two outer series filiform or narrowly liguliform, 1.5-2.5 cm long, white, purple at the base; those of the inner series 2-2.5 mm long, linear-falcate or reduced to minute, dentiform processes. Interior of the receptacle between corona and operculum smooth and minutely tuberculate. Operculum membranaceous, incurved, entire or short-fimbrillate. Limen cupuliform, entire or crenulate. Ovary ovoid or globose, glabrous or somewhat tomentose. Fruit globose or ovoid, 4-5 cm in diam., yellowish, greenish or purplish. Seeds oval, 4-6 × 3-4 mm, reticulate.

Apparently native of Brazil; cultivated and escaped in the West Indies, Central and South America; cultivated in Australia and Hawaii.

Curação: Van Engelen (Arnoldo 1050, fl. Feb.).

#### Passiflora rubra L.

Linnaeus, Spec. Plant. 956. 1753; Grisebach, Fl. Br. W. Ind. Isl. 292. 1860; Duss, Fl. phan. Ant. franç. 312. 1897; Boldingh, Fl. D. W. Ind. Isl. 139. 1909; Urban, Symb. Ant. 4: 426. 1910; Boldingh, Fl. Ned. W. Ind. Eil. 293. 1913; Urban, Symb. Ant. 8: 453. 1920; Britton & Millspaugh, Bahama Fl. 288. 1920; Britton & Wilson, Sci. Surv. Porto Rico & Virgin Isl. 5: 603. 1924; Fawcett & Rendle, Fl. Jamaica 5(3): 239. 1926; Killip, Field Mus. Nat. Hist., Bot. Ser. 19: 217. 1938; Cheesman in Williams, Fl. Trinidad & Tobago 1(7): 431. 1940.

A somewhat woody vine; stems slender, angular, striate, densely greyish-pubescent. Leaves petiolate; petiole up to 5 cm long, eglandular; blade cordate at the base, bilobed or sometimes with a small third lobe at the apex, 2—6 cm along the midvein, 6—11 cm between the tops of the lateral lobes, membranaceous, finely pubescent or rarely softly hirsute; the lobes divergent, ovate, acute or obtuse at the apex. Stipules setaceous, 5—8 mm long. Flowers solitary or rarely in pairs in the axils of the leaves, 3—4 cm in diam.; peduncle

equalling the petiole in length, jointed near the apex. Bracts wanting. Receptacle saucer-shaped. Sepals linear-lanceolate, about 2 × 0.5 cm, acutish, 3-veined, pubescent and greenish outside, glabrous and white within. Petals linear, about 1 cm long and 3 mm wide, white. Corona filaments in 1 on 2 series, those of the outer series threadlike, 5—10 mm long, pinkish; those of the second series, if present, barely 2 mm long. Operculum membranaceous, slightly plicate, minutely fringed. Limen annular, subcupuliform. Ovary subglobose, 4 mm long, hairy. Fruit ovoid or obovoid, 2—4 cm long, 1—3 cm in diam., marked with several longitudinal lines. Seeds black, about 3 mm long and nearly 2 mm wide, transversely sulcate.

Throughout the West Indies; from Colombia and Venezuela to Peru and Bolivia; eastern Brazil.

Woodlands, mostly in wet districts.

Vernacular name: snakeberry vine (Windward Group).

Saba: road to The Mountain (Arnoldo 803, fr. Aug.); Windwardside (Arnoldo 649, st. Aug.); Crispine (Boldingh 1764, fl. July); top of The Mountain, 800 m (Boldingh 2217, st. July); between The Bottom and Mary's Point, 300 m (Boldingh 1488, flb. July); id., 350 m (Boldingh 1494, fl. July).

ST. Eustatius: without loc. (Boldingh 1494, fr.).

St. Martin: lower part of Mount Paradise (Boldingh 3292, fl. Sept.).

# Passiflora pulchella H.B.K.

Humboldt, Bonpland & Kunth, Nov. Gen. & Spec. 2: 134. 1817; Killip, Field Mus. Nat. Hist., Bot. Ser. 19: 224. 1938; Arnoldo, Zakflora 127. 1954; Zakflora 175. 1964.

Glabrous, somewhat woody vine. Leaves petiolate; petiole 1-2 cm long, eglandular; blade bilobate, truncate, rounded or cuneate at the base, 2.5-5 cm along the midvein, 3-7.5 cm along the lateral veins, occasionally a small third lobe present in the sinus, coriaceous, 3-veined from the base, prominently reticulate-veined; the lobes divaricate or suberect, rounded or truncate and mucronate at the apex, sometimes deeply bi-lobed. Stipules narrowly linear, 5-7 mm long. Flowers solitary in the axils of the leaves, about 6 cm in diam., white or variegated; peduncle divaricate. Bracts ovate or suborbicular, 1-1.5 cm long and 8-10 mm wide, acutish or obtuse at the apex, tapering at the base. Sepals oblong, obtuse at the apex, 20 × 7-9 mm. Petals ovatelanceolate or oblong-lanceolate, 1-1.5 cm × 4 mm. Corona filaments in several series, filiform, the outermost as long as the petals, those of the inner series about 4-5 mm long. Operculum membranaceous, plicate, fimbriate and incurved. Limen annular. Ovary subglobose, glabrous. Fruit globose, 1-1.5 cm in diam. Seeds obovate, 2-3 × 1 mm, transversely sulcate with about 6 rugulose ridges.

Continental America from southern Mexico to the northern coast of Venezuela and Colombia; Curação.

In deciduous seasonal forest.

CURAÇÃO: Seroe Christoffel (Arnoldo 1007, fl. Jan.; 2209, fl. & fr. Dec.; Stoffers 1132, st. Dec.); Museumtuin, Mundo Nobo (Arnoldo 2154, fl. Oct.).

## Passiflora foetida L.

LINNAEUS, Spec. Plant. 959. 1753.

Herbaceous vine. Leaves petiolate; the petiole eglandular, up to 6 cm long; blade 3—5-lobed, membranaceous, variable in shape, cordate or subcordate at the base. Stipules deeply cut, the divisions threadlike and gland-tipped. Flowers solitary, 2—5 cm in diam., white, purplish, lilac or pink, involucrated by 3 pinnatifid bracts, their segments filiform and gland-tipped. Receptacle short-campanulate. Sepals ovate-oblong or ovate-lanceolate, awned dorsally just below the apex. Petals oblong, oblong-lanceolate or oblong-spathulate, slightly shorter than the sepals. Corona filaments in several series; those of the outer two series filiform, 1 cm long; those of the other series subulate, 1—2 mm long. Operculum membranaceous, erect, denticulate. Berry globose or subglobose. Seeds obscurely tridentate at the apex, coarsely reticulate at the centre of each face.

# Key to the varieties:

- 1. Ovary glabrous (Windward Group) . . . . . . . . var. hispida
  Ovary pubescent, fruit sparingly to densely pubescent (Leeward Group) 2
- 2. Stem, petiole and peduncle hirsute with spreading, rather stiff, yellowish or brownish hairs, averaging more than 1.5 mm. . . . var. foetida

  Stem, petiole and peduncle pilosulous; the hairs averaging less than 1 mm

  var. moritziana

Var. foetida; — P. foetida Linnaeus var.  $\beta$ , Spec. Plant. 959. 1753; — P. vesicaria Linnaeus, Amoen. Acad. 5: 382. 1760.

Stems densely hirsute with yellowish-brown hairs, more than 1.5 mm long. Leaves hastate, averaging 4—7 × 3—4.5 cm, usually glandular-ciliate, sparingly to appressed hirsute; the mid-lobe lanceolate or ovate-lanceolate, acuminate, the lateral lobes suborbicular, often apiculate. Bracts ovate in general outline, 2—3 cm long, 2 or 3 times pinnatisect, the ultimate segments filiform and gland-tipped. Ovary globose or subglobose, hirsute with brown or white hairs. Berry 2—2.5 cm in diam., yellow, sparingly to densely hirsute.

West Indies and tropical South America; introduced in the tropics of the Old World. Probably only once collected in Curação and the specimen in Herb. Plukenet (BM) according to Killip. Type of P. foetida L. var.  $\beta$ .

## Var. moritziana (Planch.) Killip

KILLIP in Pulle, Fl. Suriname 3(1): 318. 1937; Field Mus. Nat. Hist. Bot. Ser. 19: 492. 1938; Arnoldo, Zakflora 175, fig. 87. 1964; — P. moritziana Planchon, Ann. Sci. Nat. V, Bot. 17: 175. 1873.

Stem, petiole and peduncles densely and minutely white-pilosulous; the hairs usually not exceeding 1 mm in length. Leaves subhastately 3-lobed, 4—8 ×

4—8 cm, pilosulous. Bracts once-(rarely twice-)pinnatifid, the segments scarcely longer than the witdh of the rhachis. Ovary velutinous. Berry about 3 cm long.

Suriname, northern Venezuela, and Colombia; Aruba, Bonaire, and Curaçao.

Common species at lower elevations.

Vernacular names: corona di La Birgen, Kruizebloem, maraca, marcusá, shoshori, shonshon, sosori, yerba di cruz (Leeward Group).

ARUBA: Playa (Arnoldo 103, flb. Dec.); near Noord (Stoffers 1569, fl. Jan.); Seroe Pretoe (Stoffers 1670, flb. Jan.); without loc. (Boldingh 6216, flb.).

Bonaire: calcareous plateau of Montagne (Boldingh 7407, fl. Feb.); Rincón (Boldingh 7107, fl. Jan.); Dos Pos (Stoffers 569, flb. Nov.); near Kralendijk (Stoffers 620, fl. Nov.); Seroe Caracao (Stoffers 1057, st. Dec.); near lighthouse of Seroe Ventana (Stoffers 1062, flb. Dec.); Fontein (Stoffers 538, flb. Nov.); along roads in Kralendijk (Stoffers 910, flb. Dec.); Bolivia (Stoffers 673, fl. Nov.). Curaçao: road from Cas Chiquito to Veeris Berg (Boldingh 4701, fr. Oct.); seashore near Hato (Boldingh 5108, fl. Nov.); Santa Barbara, near the foot of Tafelberg (Stoffers 389, st. Oct.); Brakkeput Mei Mei (Stoffers 199, fl. & fr. Oct.; 201, fl. Oct.); Santa Catharina (Stoffers 184, flb. Oct.); Hato (Stoffers 60, fl. Sept.); hills near Knip (Stoffers 1164, fr. Dec.); Choloma (Arnoldo 2042,

## Var. hispida (DC.) Killip

fl. Ap.).

KILLIP ex Gleason, Bull. Torrey Bot. Club 58: 408. 1931; Field Mus. Nat. Hist. Bot. Ser. 19: 494. 1938; — P. hispida DeCandolle ex Triana & Planchon, Ann. Sci. Nat. V, Bot. 17: 172. 1873.

Stems densely hispid with spreading, yellow hairs, 2—3 mm long, not viscous. Leaves subhastate, averaging 6—10  $\times$  5—10 cm, subentire, or remotely denticulate, densely ciliate with gland-tipped hairs, sparingly appressed-hispid-hirsute on both surfaces; the mid-lobe broadly ovate, abruptly acute or abruptly acuminate, the lateral lobes triangular-ovate, subobtuse or acute. Bracts 3—4  $\times$  2—2.5 cm, 3 or 4 times pinnatisect, the segments closely interwoven. Ovary glabrous. Fruit globose, 2—3 cm in diam., yellow.

West Indies, South America southward to northern Peru and Amazonian Brazil; also in the tropics of the Old World.

SABA: gut near Mary's Point (Boldingh 2048, fl. July).