

PIPERACEAE

by

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Herbs, shrubs, or small trees, sometimes scandent; stems slightly to strongly nodose, the vascular bundles distinct and sometimes scattered. Leaves simple, entire, alternate or less frequently opposite or verticillate, mostly petiolate; stipules, when present, commonly adnate to the petiole. Flowers very small, bisexual in most American species, lacking a perianth, sessile in the axils of bracts of various forms, in more or less fleshy spikes, or, in the genus *Ottonia* (not present in our area) pedicellate in spike-like racemes; stamens commonly 2 to 5 (1—10), the anthers longitudinally dehiscent; pistil 1, 1-celled, the ovule basal; stigmas 1—5, sessile or on a style. Fruit a drupe with thin pericarp and small seed, the embryo embedded in endosperm.

A large family of wide distribution throughout the warm parts of both hemispheres.

Key to the genera:

1. Stigmas mostly 3—4 (2—5); floral bracts various, commonly marginally papillate or fringed; shrubs or subshrubs 2
Stigmas 1; floral bracts round-peltate, glabrous; small, herbaceous and more or less succulent plants *Peperomia*
2. Inflorescence a leaf-opposed, solitary spike *Piper*
Inflorescence axillary, with several spikes on a common stalk *Pothomorphe*

Piper Linnaeus, Gen. Plant. 333. 1737

Shrubs or small trees, (elsewhere also climbers, or less frequently rather small and subherbaceous). Leaves alternate, the nervation palmate or, more commonly, variously pinnate; stipules, when present, usually adnate with the petiole. Spikes leaf-opposed, solitary, elongated, cylindrical, infrequently short and subglobose; floral bracts of various shapes, commonly with a pedicel and a rounded, triangular, lunulate, cucullate, or ligulate, peltate or subpeltate summit, sometimes glabrous but more commonly hairy with the margin variously fringed. Drupes usually more or less globose or ovoid, often laterally

flattened by pressure from adjacent fruits, the pericarp in American species thin and scarcely fleshy.

A large genus, widely distributed in the tropics of both hemispheres. In many tropical areas species of *Piper* form a conspicuous part of the vegetation. For the most part, members of this genus have no economic value. Medicinal properties have been ascribed to a few species, especially by primitive peoples, and they use certain species to stupefy fish. The most important species is *P. nigrum* L. of the Old World which, for hundreds of years, has been the source of the spice pepper. The pulverized root of *P. methysticum* Forst. of the Pacific islands forms the basis of a slightly narcotic beverage popular with the peoples of that area. Leaves of *P. betle* L., another Old World species, when added to the seed of the betle palm and some lime, is chewed many, especially of southeastern Asia and adjacent areas.

Key to the species:

1. Leaves palmately nerved with all major nerves arising at the base of the blade 2
Leaves pinnately nerved from below the middle or above *P. dilatatum*
2. Leaves mostly less than 10 cm long *P. medium*
Leaves mostly 15 cm or more long *P. reticulatum*

***Piper medium* Jacq.**

JACQUIN, Icon. Pl. Rar. 1: 2. 1781; C. DECANDOLLE in DECANDOLLE Prodr. 16(1): 246. 1869; C. DECANDOLLE in URBAN, Symb. Ant. 3: 165. 1902; TRELEASE & YUNCKER, Piperac. northern S. Amer. 68, fig. 60. 1950; YUNCKER, Ann. Mo. Bot. Gard. 37: 19. 1950; YUNCKER, Lilloa 26: 246. 1953; YUNCKER, Lilloa 27: 114, pl. 8, 2. 1953; — *Piper plantagineum* LAMARCK, Illustr. Ency. Meth. 1: 80. 1791; — *Piper saururoides* HAM., Prodr. Ind. Occ. 3. 1825; — *Piper reticulatum* VELL., Fl. Flum. vol. 1: pl. 61. 1827; — *Piper syringaeifolium* BALBIS ex KUNTH, Linnaea 13: 599. 1839; — *Enckea plantaginea* KUNTH, Linnaea 13: 599. 1839; — *Enckea orthostachya* KUNTH, Linnaea 13: 601. 1839; — *Piper orthostachyum* KUNTH, Linnaea 13: 602. 1839; — *Enckea sieberi* MIQUEL, Syst. Pip. 358. 1843; GRISEBACH, Fl. Br. W. Ind. Isl. 170. 1859; — *Piper victorianum* C. DECANDOLLE, Journ. of Bot. 4: 218. 1866; — *Piper tigerrinum* C. DECANDOLLE, Journ. of Bot. 4: 300. 1866; — *Piper sieberi* C. DECANDOLLE in DECANDOLLE, Prodr. 16(1): 248. 1869.

A shrub, commonly 2—4 m tall, or occassionnally as much as 7 m; stems and branches puberulent or glabrate. Leaves lance- to round-elliptic or subrhombically obovate, 8—11 (15) cm long and 2.5—6 (10) cm wide, acuminate at the apex, the base sometimes suboblique, acute or somewhat rounded, slightly subauriculate at the very base, or lowermost leaves more or less cordate, the upper surface glabrate, the nerves beneath usually puberulent, at least toward the base, palmately 5—7-nerved, the outermost nerves more slender, reticulate-nervulose, drying rather thin and minutely pellucid-dotted; petiole 5—10 mm long, vaginate near the base, or occasionally to the middle, puberulent or glabrate. Spikes 6—7 cm long and 4—5 mm thick; peduncle 8—15 mm long, puberulent; rhachis puberulent; bracts obovate-concave, dorsally papillate-

pilose; stamens 5 or 6; drupe ovoid, free, often somewhat angled, minutely papillate or smooth; stigmas 3 or 4, rounded, sessile.

Widely distributed and often quite common throughout tropical America.
Frequent in second-growth thickets.

St. EUSTATIUS: inner slope of The Quill, alt. 350 m (Boldingh 459, st. June).

This is one of the commonest and most widespread of American species, appearing in a wide range of scarcely differentiable forms. DeCANDOLLE maintained *P. medium* as distinct from the Jamaican *P. amalago* L. chiefly on the basis of the greater pubescence of its twigs, leaves and bracts, larger leaves, etc. Field studies and examination of a larger number of collections from Jamaica, the type locality of *P. amalago*, have shown the plants occurring there to be predominantly glabrous and, in general, with smaller leaves than those occurring on the mainland commonly referred to *P. medium*. They are, however, very closely related and, perhaps, should be united. This species is apparently infrequent in our area.

Piper reticulatum L.

LINNAEUS, Spec. Plant. 29. 1753; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 295. 1869; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 170. 1902; — *Piper smilacifolium* H.B.K., Nov. Gen. & Sp. 1: 56. 1815; — *Piper laetum* H.B.K., Nov. Gen. & Sp. 1: 57. 1815; — *Enckea smilacifolia* KUNTH, Linnaea vol. 13: 605. 1839; GRISEBACH, Fl. Br. W. Ind. Isl. 169. 1859; — *Enckea lata* KUNTH, Linnaea 13: 606. 1839; — *Enckea reticulata* MIQUEL, Syst. Pip. 365. 1844; — *Macropiper latum* PRESL, Epim. Bot. 223. 1849; — *Piper Duchassaingii* C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 251. 1869; — *Discipiper reticulatum* TRELEASE & STEHLÉ, Candollea 10: 283. 1946.

A glabrous shrub or small tree, up to 4—5 m high; branches slender, nodose. Leaves elliptic, elliptic-ovate, or broadly ovate, 15—25 (-30) cm long and 8—15 (-25) cm wide, acuminate at the apex, the base essentially equilateral, more or less acute, truncate, or, in large leaves, shallowly cordate, palmately 5—7-nerved, or larger leaves 9-nerved, the nerves prominent beneath, reticulate-veiny, with rather prominent cross-connecting nervules, drying firm, chartaceous; petiole 1—2 cm long, glabrous or very obscurely puberulent-papillate, vaginate near the base. Spikes up to 10—12 cm long and 5—6 mm thick, flowers approximate; rhachis with membranaceous fimbriated ridges; bracts peltately dilated upwards with margin and pedicel bearded; stamens 4; drupe obovoid, somewhat 4-sided, papillate-puberulent above, with an apical, smooth, disc-like area; stigmas 3 or 4, sessile.

West Indies, Central America and northern South America.

SABA: Booby Hill, 300 m (Boldingh 1617, st. July); Spring Bay Cut (Boldingh 2083, fl. & fr. July; 2106, st. July).

St. EUSTATIUS: bottom of The Quill, 300 m (Boldingh 911, st. June); id. 250 m (Stoffers 3617, fl. & fr. July); slope of The Quill near Bengalen, 170 m (Stoffers 3782, st. July); inner slope of The Quill, 250 m (Boldingh 423, st. June); without loc. (v. Groll 212, st.; 1997, st.; 250G, st.).

Piper dilatatum L. C. Rich.

L. C. RICHARD, in Act. Soc. Hist. Nat. Par. 1: 105. 1792; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 314. 1869; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 197. 1902; FAWCETT & RENDLE, Fl. Jamaica 3: 26. 1914; TRELEASE & YUNCKER, Piperac. northern S. Amer. 276, fig. 238. 1950; YUNCKER, Lilloa 26: 256. 1953; YUNCKER in PULLE, Fl. Suriname 1(2): 243. 1957; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 12. 1960; — *Piper verrucosum* WILLDENOW, Spec. Plant. 1: 163. 1797, fide C. DeCANDOLLE; — *Schilleria ulmifolia* KUNTH, Linnaea 13: 698. 1839; — *Piper corylifolium* KUNTH, Linnaea 13: 699. 1839; — *Schilleria corylifolia* KUNTH, Linnaea 13: 699. 1839; — *Artanthe ulmifolia* MIQUEL, Syst. Pip. 472. 1844; — *Artanthe corylifolia* MIQUEL, Syst. Pip. 474. 1844; — *Piper grahami* TRELEASE, Bull. Torr. Bot. Club 60: 477. 1933.

A shrub, 2—3 m high; upper internodes usually slender and rather short, lengthening downward, sparsely to moderately crisp-pubescent, subvillous, or occasionally glabrate. Leaves broadly rhombic-elliptic-subovate, or subovate, mostly 15—20 cm long and 7—9 cm wide, or occasionally only 10—15 × 5—7 cm, acuminate at the apex, the base inequilaterally rounded, obtuse or cordulate, with one side 3—4 mm shorter at the petiole, pinnately nerved from the lower half, the nerves mostly 5 or 6 on each side, somewhat scabrous or smooth, sparsely pubescent on both sides, at least along the nerves, drying thin, translucent; petiole 5—10 (rarely up to 30) plus 3—4 mm long, pubescent, vaginate at the base. Spikes 7—8 cm long and 3 mm thick; peduncle 5—10 mm long, somewhat pubescent; bracts rounded- or triangular-subpetiolate, marginally fringed; drupe obpyramidal-trigonous, papillate-puberulent at the top; stigmas 3, sessile.

West Indies and northeastern South America.

SABA: Booby Hill, 400 m (Stoffers 4292, st. Aug.; 4324, fl. & fr. Aug.); Small Rendez-Vous, 450 m (Stoffers 2928, fl. & fr. Ap.); between Crispine and Small Rendez-Vous, 350 m (Stoffers 3058, fl. & fr. Ap.); Great Rendez-Vous, 450 m (Stoffers 3351, fl. & fr. May); slope of The Mountain, 600—680 m (Stoffers 3252, fl. & fr. May); road to The Mountain (Arnoldo 1352, fl. & fr. March); Windwardside (Arnoldo 650, fl. & fr. Aug.); Laddergut, 0—200 m (Boldingh 1964, fl. July); Gut between Mastic Cut and Hellsgate, 300—400 m (Boldingh 2061, fl. & fr. July); The Bottom, 200 m (Boldingh 1451, st. July); without loc. (Boldingh 1404, st. July; 1437, st. July; 1439, st. July).

ST. EUSTATIUS: inner slope of The Quill, 350 m (Boldingh 416, st. June; 424, fl. June); slope of The Quill near Bengalen, 200 m (Boldingh 706, st. June); top of The Quill, 500 m (Boldingh 491, st. June); without loc. (v. Groll-Meyer 174, fl. & fr.).

ST. MARTIN: Mount Paradise, 300—400 m (Boldingh 3219, st. Sept.); hills on the northern side of Cul de Sac, 100—200 m (Boldingh 2891, fl. & fr. Aug.).

This is the most frequent species of *Piper* in our area.

Pothomorphe Miquel, Bull. Sci. phys. nat. neerl. 450. 1840

Shrubs or large herbs. Leaves alternate, large and broadly rounded, the base cordate or peltate. Spikes densely flowered, long and comparatively slender, umbellate at the end of an axillary stalk. Flowers sessile, perfect, similar to those of *Piper*.

A small genus of wide distribution in the tropics of both hemispheres.

Common in open areas, along trails, etc. The non-peltate *P. umbellatum* (L.) Miq. is found under the same conditions as this species and is often associated with it.

Pothomorphe peltata (L.) Miq.

MIQUEL, Bull. Sci. phys. nat. Neerl. 450. 1840; MIQUEL, Comm. Phyt. 36. 1840; KUNTH, Linnaea 18: 226. 1844; MIQUEL in MARTIUS, Fl. Bras. 4(1): 26. 1852; GRIEBACH, Fl. Br. W. Ind. Isl. 169. 1859; PULLE, Enum. 139. 1906; TRELEASE & YUNCKER, Piperac. northern S. Amer. 435, fig. 394. 1950; YUNCKER, Ann. Mo. Bot. Gard. 37: 72, fig. 16. 1950; YUNCKER, Lilloa 26: 265. 1953; YUNCKER, Lilloa 27: 165, pl. 45, fig. 1. 1953; YUNCKER in PULLE, Fl. Suriname 1(2): 266. 1957; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 19. 1960; — *Piper peltatum* LINNÆUS, Spec. Plant. 30. 1753 (sphalm. pelatum); C. DECANDOLLE in URBAN, Symb. Ant. 3: 208. 1902; — *Piper pruinosa* H.B.K., Gen. & Sp. 1: 59. 1815; — *Peperomia pruinosa* KUNTH, Synops. Pl. Aequin. 1: 124. 1822; — *Peperomia speciosa* KUNTH, Synops. Pl. Aequin. 1: 124. 1822; — *Piper scutiphyllum* HAMILTON, Prodr. Pl. Ind. Occ. 3. 1825; — *Peperomia peltata* A. DIETR., Spec. Plant. 1: 142. 1831; — *Peperomia scutata* A. DIETR., Spec. Plant. 1: 143. 1831; — *Piper scutatum* WILLDENOW in A. DIETR., Spec. Plant. 1: 132. 1831, as synonym; — *Lepianthes peltatum* RAFINESQUE, Sylva Tellur. 85. 1838; — *Heckeria peltata* KUNTH, Linnaea 13: 565. 1839; — *Heckeria scutata* KUNTH, Linnaea 13: 567. 1839; — *Heckeria speciosa* KUNTH, Linnaea 13: 568. 1839; — *Pothomorphe scutata* MIQUEL, Comm. Phyt. 37. 1840; — *Pothomorphe speciosa* MIQUEL, Comm. Phyt. 37. 1840; — *Pothomorphe ottonis* MIQUEL, Syst. Pip. 207. 1843; — *Piper ottonis* C. DECANDOLLE in DECANDOLLE, Prodr. 16(1): 332. 1869; — *Pothomorphe almirantensis* TRELEASE, Ann. Mo. Bot. Gard. 27: 306. 1940; — *Pothomorphe Baileyorum* TRELEASE, Ann. Mo. Bot. Gard. 27: 306. 1940; — *Pothomorphe Baileyorum* var. *paucispica* TRELEASE, Ann. Mo. Bot. Gard. 27: 306. 1940; — *Pothomorphe tecumensis* TRELEASE, Ann. Mo. Bot. Gard. 27: 306. 1940; — *Pothomorphe tecumensis* var. *grandis* TRELEASE, Ann. Mo. Bot. Gard. 27: 307. 1940.

A soft-wooded shrub or subshrub, commonly 1—2 m high; stems glabrous. Leaves rounded-ovate, 18 cm long and 16 cm wide, or sometimes up to twice as large, acute at the apex, the petiole attached one-fourth to one-third the length of the blade above the rounded to cordate lower margin, mostly with 13 or 15 nerves radiating from the petiole, and usually with one or two pairs arising off the midrib below the middle, both sides glabrous but the nerves near the margin usually short-hairy, comparatively thin, drying membranaceous, translucent, yellow-glandular, pellucid-dotted; petiole mostly 8—20 cm long, glabrous, vaginate-winged from one-fourth to one-half its length. Flowering stalks axillary, 4—7 cm long, naked with the exception of deciduous, linear-lanceolate bracts at the base of the spikes. Spikes numerous, umbellate, 5—10 cm long and 2—4 mm thick; peduncles slender, commonly 10—15 mm

long, glabrous; bracts triangular-peltate, marginally fimbriate; stigmas 3, small, sessile; drupe small, obpyramidal-trigonous.

Throughout the range of the genus in the Americas.

SABA: road to The Mountain (Arnoldo 866, fl. & fr. Aug.); slope of The Mountain at the side of The Bottom, 400–500 m (Stoffers 3124, fl. Ap.); slope of The Mountain "under the cliff", 680 m (Stoffers 3236, fl. May); without loc. (Suringar s.n., st.).

Peperomia Ruiz & Pavon, Prod. 8. 1794

Terrestrial or epiphytic herbs; stems succulent, creeping, pendulous, or erect. Leaves alternate, opposite, or verticillate. Spikes axillary, leaf-opposed, or terminal; flowers numerous, each composed of a simple pistil and two lateral stamens in the axil of a mostly glabrous, rounded, peltate bract, arranged in fleshy spikes; fruit minute, drupe-like, mostly glandular-viscid, sessile, or in a few species stipitate, the apex rounded with a terminal stigma, obliquely scutelliform, or slenderly rostrate with subapical stigmas.

A large genus widely distributed in the warm parts of both hemispheres. Mostly species of moist forests where they grow on the rich humus of the forest floor, mossy rocks or rotting tree trunks, or as epiphytes. A few species occur in more open areas.

K e y to the species:

1. Fruit stipitate at maturity; leaves mostly 5 mm or less wide
P. emarginella
Fruit not stipitate; leaves much wider 2
2. Fruit apically pointed, longitudinally striate; stigma apical *P. pellucida*
Fruit obliquely pointed or rostrate; stigmas subapical 3
3. Fruit apex oblique, not rostrate, usually rounded 4
Fruit apex strongly pointed to rostrate 9
4. Leaves opposite or ternate, densely pubescent *P. blanda*
Leaves alternate 5
5. Leaves black-dotted 6
Leaves not obviously black-dotted 8
6. Petioles ciliate; stems with subnodal ciliate lines *P. glabella*
Not as above 7
7. Leaves acute at apex, black-dotted *P. nigropunctata*
Leaves obtusish at apex, dots more dispersed and smaller
P. guadaloupensis

Key to the species of *Peperomia* based on vegetative characters.

1. Leaves 2 or more at a node, strongly pubescent *P. blanda*
Leaves only one at a node 2
 2. Leaves peltate; stem velvety puberulent *P. hernandiifolia*
Leaves not peltate 3
 3. Leaves pinnately or plinerved *P. magnoliifolia*
Leaves palmately nerved 4
 4. Leaves 5 mm or less wide, emarginate *P. emarginella*
Leaves much wider 5
 5. Plant entirely glabrous 6
Stems subnodally lineately ciliate; petioles ciliate, densely black-dotted
P. glabella
Stems and leaves generally pubescent; leaves ovate, base truncate to
cordate 9
 6. Leaf base cordate *P. pellucida*
Leaf base acute to cuneate 7
 7. Stems more or less winged *P. alata*
Stems not obviously winged 8
 8. Leaves densely black-dotted, apex acute *P. nigropunctata*
Leaves more or less thinly black-dotted, apex obtusish *P. guadaloupensis*
 9. Leaves mostly less than 2 cm wide *P. serpens*
Leaves mostly 2.5 cm or more wide *P. urocarpa*

Peperomia pellucida (L.) H.B.K.

HUMBOLDT, BONPLAND & KUNTH, Nov. Gen. & Spec. 1: 64. 1815; MIQUEL, Syst. Pip. 79. 1843; MIQUEL in MARTIUS, Fl. Bras. 4(1): 10. 1852; GRISEBACH, Fl. Br. W. Ind. Isl. 165. 1859; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 402. 1869; DAHLSTEDT in Kgl. Sv. Vet. Akad. Handl. 33(2): 16, pl. 1, fig. 1. 1900; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 244. 1902; PULLE, Enum. 143. 1906; FAWCETT & RENDLE, Fl. Jamaica 3: 5. 1914; YUNCKER, Rev. Soc. Bot. Cub. 6: 10, fig. 3. 1949; TRELEASE & YUNCKER, Piperac. northern S. Amer. 466, fig. 409. 1950; YUNCKER, Ann. Mo. Bot. Gard. 37: 79. 1950; YUNCKER, Lilloa 26: 268. 1953; ARNOLDO, Gekw. en nutt. pl. Ned. Ant. 104, fig. 162. 1954; YUNCKER in PULLE, Fl. Suriname 1(2): 269. 1957; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser. Bull. 11: 29. 1960; — *Piper pellucidum* LINNAEUS, Spec. Plant. 30. 1753; — *Piper concinnum* HAWORTH, Rev. Pl. Succ. 198. 1821; — *Peperomia concinna* A. DIETR., Spec. Plant. 1: 164. 1831; — *Micropiper pellucidum* MIQUEL, Comm. Phyt. 54. 1840; — *Peperomia pellucida* (L.) H.B.K. var. *pygmaea* WILLDENOW hb., ex MIQUEL, Syst. Pip. 81. 1843; — *Peperomia pellucida* (L.) H.B.K. var. *minor* MIQUEL in MARTIUS, Fl. Bras. 4(1): 10. 1852.

A delicate, erect, glabrous, pellucid, branched herb. Leaves alternate, round-deltoid-ovate, mostly 15—25 mm wide, acute at the apex and truncate-cordate at the base, palmately 5-nerved, drying very thin and membranaceous; petiole mostly 1—2 cm long. Spikes terminal, axillary, or leaf-opposed, slender, up to about 5 cm long; peduncle about 5 mm long; bracts round-peltate; drupe ellipsoidal, longitudinally sulcate-striate, with pointed apex and apical stigma.

A weedy species common throughout the West Indies and tropical America. It also occurs in the Old World tropics and Pacific islands.

In moist shaded areas, often in gardens.

SABA: The Bottom (Arnoldo 734, fl. & fr. Aug.; Boldingh 2245, fl. & fr. July); lower part of Bottom Mountain, 250 m (Boldingh 1410, fl. & fr. July); between The Bottom and Windwardside, 200 m (Boldingh 1341, fl. & fr. July); Windwardside (Boldingh 1893, fl. & fr. July); Ladder Gut, 100—200 m (Stoffers 2778, fl. & fr. Ap.).

ST. EUSTATIUS: in garden in Oranjestad (Boldingh 63, fl. & fr. May); without loc. (v. Groll-Meyer 69g, fl. & fr.).

Peperomia blanda (Jacq.) H.B.K.

HUMBOLDT, BONPLAND & KUNTH, Nov. Gen. & Spec. 1: 67. 1815; MIQUEL, Syst. Pip. 115. 1843; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 458. 1869; DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 131, pl. 11, fig. 3. 1900; FAWCETT & RENDLE, Fl. Jamaica 3: 16. 1914; TRELEASE & YUNCKER, Piperac. northern S. Amer. 556, fig. 487. 1950; YUNCKER, Lilloa 26: 271. 1953; YUNCKER, Lilloa, 27: 215, pl. 93. 1953; YUNCKER in PULLE, Fl. Suriname 1(2): 273. 1957; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 38. 1960; ARNOLDO, Zakflora 176, fig. 113. 1964; — *Piper blandum* JACQUIN, Collect. 3: 211. 1789; — *Peperomia dissimilis* H.B.K., Nov. Gen. & Spec. 1: 67, pl. 13. 1815; — *Peperomia ciliata* H.B.K., Nov. Gen. & Spec. 1: 68. 1815; GRISEBACH, Fl. Br. W. Ind. Isl. 168. 1859; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 266. 1902; — *Piper dissimile* POIRET in LAMARCK, Encycl. Meth. 4, Suppl. 468. 1816; — *Piper ciliatum* POIRET in LAMARCK, Encycl. Meth. 4, Suppl. 469. 1816; — *Troxirum blandum*

RAFINESQUE, Sylva Tellur. 85. 1838; — *Peperomia quitensis* MIQUEL, Lond. Journ. Bot. 4: 421. 1845; — *Peperomia quitensis* BENTHAM, Plant. Hartw. 253. 1846; — *Peperomia increscens* MIQUEL, Linnaea 20: 124. 1847; — *Peperomia blanda* var. *reticulata* C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 459. 1869; — *Peperomia blanda* (Jacq.) H.B.K. var. *dissimilis* C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 459. 1869; — *Peperomia ellipticifolia* C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 463. 1869; — *Peperomia Langsdorffii* var. *dissimilis* DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 131. 1900; — *Peperomia Rojastii* C. DeCANDOLLE, Bull. Herb. Boiss. ser. 2, 7: 918. 1907; — *Peperomia salvaje* C. DeCANDOLLE, Ann. Conserv. & Jard. Bot. Genève 21: 244. 1920; — *Peperomia san-pedrito* TRELEASE, Lilloa, 10: 302. 1944; — *Peperomia macaraoana* TRELEASE in BADILLO, Cat. Fl. Venez. 1: 245. 1945, name only; — *Peperomia murispica* TRELEASE in BADILLO, Cat. Fl. Venez. 1: 245. 1945, name only; — *Peperomia blanda* var. *langsdorffii* (Miq.), ARNOLDO, Zakflora 116, fig. 113. 1954.

A moderate-sized, assurgent, more or less dark-granular, simple or branched herb; stem 2—3 (-4) mm thick when dry, ascending up to 30 cm or more from the decumbent, rooting base, the internodes mostly 2—5 cm long, or occasionally up to 7 cm, loosely to rather densely pubescent. Leaves mostly opposite, or sometimes 3 at a node upward, rarely only one, elliptic, elliptic-lanceolate, oblanceolate, or obovate, often subrhombic, 2.5—5 cm long and 1—2.5 cm wide, acute at both ends, or the base sometimes subobtuse, palmately 3-nerved, or large leaves 5-nerved with the outermost pair indistinct, the lateral nerves not reaching the apex, commonly moderately to densely pubescent on both sides, at least near the base or along the nerves, ciliate, drying dark but translucent, mostly more or less dark-dotted; petiole 5—10 mm long, pubescent. Spikes terminal and axillary, usually several, slender, loosely flowered, mostly 6—12 cm long; peduncle slender, mostly about 10—15 mm long, or occasionally up to 25 cm, loosely pubescent glabrescent; bracts round-peltate; drupe about 1 mm long, globose-ovoid, with oblique apex and subapical stigma.

Widespread throughout the range of the genus in the West Indies and the Americas. On mossy rocks and logs, or epiphytic.

CURAÇAO: Seroe Christoffel (Stoffers 243, st. Oct.; 1187, fl. & fr. Dec.).

St. EUSTATIUS: top of The Quill, 380 m (Boldingh 287, st. June); lower part of the hills near Concordia (Boldingh 974, st. June).

St. MARTIN: Gut from Bethlehem to Cul de Sac, 0—100 m (Boldingh 3414, st. Sept.); near Cole Bay Hill (Boldingh 3041, st. Aug.); Milldrum Hill, 100—200 m (Boldingh 3117, st. Sept.); Naked Boy Hill, 200—265 m (Boldingh 2717, st. Aug.).

Peperomia glabella (Sw.) A. Dietr.

A. DIETRICH, Spec. Plant. 1: 156. 1831; MIQUEL, Syst. Pip. 97. 1843; MIQUEL in MARTIUS, Fl. Bras. 4(1): 12. 1852; GRISEBACH, Fl. Br. W. Ind. Isl. 165. 1859; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 417. 1869; DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 121. 1900; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 235. 1902; FAWCETT & RENDLE, Fl. Jamaica 3: 14. 1914; YUNCKER, Rev. Soc. Bot. Cub. 6: 51, fig. 28. 1949; TRELEASE & YUNCKER, Piperac. northern S. Amer. 587, fig. 511. 1950; YUNCKER, Ann. Mo. Bot. Gard. 37: 235. 1953; YUNCKER in PULLE, Fl. Suriname 1(2): 274. 1957; YUNCKER,

Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 40. 1960; — *Piper glabellum* SWARTZ, Prodr. Veg. Ind. Occ. 16. 1788; — *Piper scandens* SWARTZ, Prodr. Veg. Ind. Occ. 16. 1788, not Vahl 1831; — *Piper caulinbarbis* MIQUEL, Syst. Pip. 98. 1843; — *Peperomia melanostigma* MIQUEL var. *angustifolia* MIQUEL, Linnaea 18: 226. 1844; — *Peperomia lineatipila* A. RICHARD in SAGA, Fl. Cub., 11: 229. 1850; — *Peperomia trinervis* R. & P. var. *brachiphylla* C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 417. 1869; — *Peperomia caulinbarbis* MIQUEL var. *brachiphylla* (A. Dietr.) DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 120. 1900; — *Peperomia glabella* (Sw.) A. DIETR. var. *brachiphylla* (A. Dietr.) C. DeCANDOLLE in URBAN, Symb. Ant. 3: 236. 1902; — *Peperomia chagalana* C. DeCANDOLLE, Bot. Jahrb. 40: 259. 1908; — *Peperomia sublaxiflora* C. DeCANDOLLE, Bot. Jahrb. 40: 259. 1908; — *Peperomia similis* BRITTON, Mem. Torrey Bot. Club. 16: 61. 1920; — *Peperomia cubana* C. DeCANDOLLE f. *platana* TRELEASE in FEDDE, Repert. 23: 19. 1926; — *Peperomia lineatipila* A. RICHARD f. *mogotana* TRELEASE in FEDDE, Repert. 23: 19. 1926; — *Peperomia leucandra* TRELEASE, Contr. U.S. Nat. Herb. 26: 46. 1907; — *Peperomia fuscociliata* TRELEASE, Contr. U.S. Nat. Herb. 26: 46. 1927.

Var. *glabella*

A rather small, black-granular-dotted, stoloniferous, often pendulous herb; stem 1—2 mm thick when dry, the branches ascending to 15 cm or more, glabrous with the exception of the ciliate petioles and decurrent subnodal lines. Leaves alternate, ovate to ovate- or elliptic-lanceolate, 15—35 mm long and 8—13 mm wide, acute to acuminate at both ends, palmately 3—5-nerved, or plinerved within the lowermost 5—7 mm, ciliate near the apex, commonly drying dark and subopaque; petiole 5—10 mm long, ciliate, the ciliation continuing as two decurrent, subnodal lines. Spikes terminal and from the upper leaf axils, slender, 5—8 (-12) cm long; peduncle 8—15 mm long; bracts round-peltate; drupe globose-ovoid, with oblique apex and subapical stigma.

West Indies, Central America, and South America.

Frequent in forest on rocky walls and trees, often pendent.

SABA: Great Hill, 400 m (Boldingh 1382, fl. & fr.); Bottom Hill, 300—350 m (Stoffers 3135, fl. & fr. May); Windwardside (Stoffers 4329, st. Aug.); slope of The Mountain near Windwardside, 400—475 m (Stoffers 3336, fl. & fr. May); top of The Mountain, "under the cliff", 680 m (Stoffers 3202, fl. & fr. May); slope of The Mountain above Rendez Vous, 550 m (Stoffers 4257, st. Aug.); without loc. (Lionarons 46, fl. & fr.; s.n. fl. & fr.; Boldingh 1374, fl. & fr.).

ST. EUSTATIUS: top of The Quill, at the side of Glass Bottle, 380—400 m (Stoffers 3556, st. July); top of The Quill, 400—480 m (Stoffers 3947, st. July); top of The Quill, 400 m (Boldingh 178, fl. & fr. June).

ST. MARTIN: Mount Paradise, 150—400 m (Boldingh 3192, st. Sept.).

Var. *nervulosa* (C. DC.) Yun.

YUNCKER, Ann. Mo. Bot. Gard. 27: 98. 1950; TRELEASE & YUNCKER, Piperac. northern S. Amer. 588, fig. 512. 1950; YUNCKER, Lilloa 27: 273. 1953; YUNCKER, Lilloa 27: 236. 1953; YUNCKER in PULLE, Fl. Suriname 1(2): 276. 1957; — *Micropiper melanostigma* MIQUEL, Syst. Pip. 90. 1843; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 408. 1869;

PULLE, Enum. 144. 1906; — *Peperomia Velloziana* MIQUEL var. *polysticta* MIQUEL, Linnaea 18: 226. 1844; — *Peperomia melanostigma* MIQUEL var. *nervulosa* C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 409. 1869; PULLE, Enum. 144. 1906; — *Peperomia melanostigma* MIQUEL var. *glabrior* C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 409. 1869; — *Peperomia glabella* (Sw.) A. DIETRICH var. *melanostigma* DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 122. 1900; YUNCKER, Rev. Soc. Bot. Cub. 6: 55, fig. 29. 1849; — *Peperomia conjugans* TRELEASE, Contr. U.S. Nat. Herb. 26: 45. 1927; — *Peperomia Johnstoni* TRELEASE in BADILLO, Cat. Fl. Venez. 1: 245. 1945, name only. Leaves lanceolate, acute to long-attenuate at both ends, 3—8 cm long and 1—3 cm wide.

Distribution with variety *glabella*.

St. EUSTATIUS: top of The Quill, 350—450 m (Stoffers 3699, st. July; Boldingh 317, fl. & fr. June).

***Peperomia nigropunctata* Miq.**

MIQUEL, Syst. Pip. 188. 1843; — *Piper acuminatum* LINNAEUS, Spec. Plant. 30. 1753; — *Peperomia acuminata* (L.) DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 123. 1900 p.p.; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 242. 1902, not R. & P. (1798).

A glabrous, branching, assurgent, epiphytic or terrestrial herb, all parts densely black-dotted, rooting from the lower nodes; stem somewhat zig-zag upwards, 2—3 mm thick when dry, the branches ascending up to 25 cm or more, the internodes 2—4 cm long. Leaves alternate, lance-elliptic or subrhombic-elliptic, with acuminate apex and acute base, 5—8 cm long and 2.5—3 (.4.5) cm wide, sparsely bristly at the apex, 5-plinerved within the lowermost 1 cm, or the nerves free to the base, the midrib faintly branched upward, densely black-dotted, drying membranaceous, translucent; petiole 1—1.5 cm long, canaliculate, clasping-decurrent. Spikes axillary and terminal, about 1 mm thick and up to 14 cm long; peduncle about equaling the petiole; bracts round-peltate; drupe globose-ovoid, with oblique apex and subapical stigma.

West Indies; the type from Martinique.

Commonly epiphytic.

SABA: the Bottom to Crispine, 220—350 m (Stoffers 2946, fl. & fr. Ap.; 2953, fl. & fr. Ap.; 2981, fl. & fr. Ap.); near The Saddle, 350—400 m (Stoffers 4122, st. Aug.); Hellsgate (Stoffers 3877, fl. & fr. May); between Hellsgate and Santa Cruz, 500—600 m (Stoffers 3458, fl. & fr. May); slope of The Mountain at the side of The Bottom, 400—500 m (Stoffers 3118, fl. & fr. Ap.); near Sulphur-mines (Stoffers 3128, fl. & fr. May); Great Hill, 300 m (Stoffers 3195, fl. & fr. May).

St. EUSTATIUS: top of The Quill, 400—480 m (Stoffers 3948, st. July).

St. MARTIN: mountain between Mont des Accords and Sentry Hill, 200—300 m (Boldingh 2898, fl. & fr. Aug.); Naked Boy Hill, 200—265 m (Boldingh 2725, fl. & fr. Aug.).

Peperomia guadaloupensis C. DC.

C. DeCANDOLLE, Journ. Bot. 4: 139. 1866; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 239. 1902; FAWCETT & RENDLE, Fl. Jamaica 3: 4. 1914; YUNCKER, Rev. Soc. Bot. Cub. 6: 46, fig. 25. 1949; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 42. 1960; — *Piper tenuiflorum* VAHL in WEST, Bidr. Ste. Croix 286. 1793, fide Fawcett & Rendle; — *Peperomia acuminata* GRISEBACH, Fl. Br. W. I. Isl. 165. 1859, p.p.; — *Peperomia myrgifolia* DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 124. 1900, p.p.; — *Peperomia Boldinghii* C. DeCANDOLLE in URBAN, Symb. Ant. 7: 186. 1912.

A glabrous, freely branching, erect or suberect herb, up to 30 cm or more high; stem up to 5 mm thick near the base when dry, the internodes commonly 1—3 or 4 cm long. Leaves alternate, elliptic, lance-elliptic, subob lanceolate or subobovate, with bluntly pointed apex and acute to cuneate base, 3.5—5.5 (-6.5) cm long and 1.5—2.5 (3.5) cm wide, eciliate, palmately 5-nerved, the midrib and nerves rather prominent beneath, finely venulose by transmitted light, glandular-dotted beneath, the dots comparatively small and diffuse, usually black but sometimes red to rather pale, or sometimes apparently lacking, drying chartaceous to firm, translucent, often yellowish; petiole canaliculate, 4—7 (-10) mm long. Spikes terminal and axillary, 1—2 mm thick and up to 15 cm long but usually somewhat shorter, closely flowered; peduncle 5—8 mm long; bracts round-peltate; fruit globose-ovoid, with oblique apex and subapical stigma.

West Indies.

SABA: Fort Gut, 150—200 m (Stoffers 3421, fl. & fr. May; Boldingh 1625, fl. & fr. July); Windwardside (Boldingh 2321, fl. & fr. July; Arnoldo 591, fl. & fr. Aug.); between The Bottom and Windwardside, 200 m (Boldingh 1352, fl. & fr. July); Crispine, 400 m (Boldingh 1723, fl. & fr. July); Great Hill, 300 m (Stoffers 3196, fl. May); Spring Bay Gut (Boldingh 2105, fl. & fr. July, type collection of P. Boldinghii); Booby Hill, 350 m (Boldingh 1612, fl. & fr. July); Castle Hill, sea side, 300—350 m (Stoffers 4129, fl. & fr. Aug.); Gain Bay Gut (Boldingh 1445a, fl. & fr. July); The Bottom (Stoffers 2913, fl. Ap.).

ST. EUSTATIUS: between Venus and Little Mountains, 40—100 m (Stoffers 4018, st. July); top of The Quill, 400 m (Boldingh 180, st. June; 334, fl. & fr. June); slope of The Quill near Bengalen, 150 m (Boldingh 679, fl. & fr. June); top of The Quill at the side of Glass Bottle, 380—400 m (Stoffers 3569, fl. & fr. 3577, fl. & fr. July); near Mary Glory, 150 m (Boldingh 1160, fl. & fr. June); between Glass Bottle and White Wall, 270 m (Stoffers 4064, fl. & fr. Aug.); without loc. (v. Groll-Meyer 193, fl. & fr.; Boldingh 1023, st. June).

ST. MARTIN: Milldrum Hill, 300—400 m (Boldingh 3135, fl. & fr. Sept.); top of hills along northern side of Cul de Sac, 200—300 m (Boldingh 3008, fl. & fr. Aug.); mountain between Mont des Accords and Sentry Hill, 200—300 m (Boldingh 2886, fl. & fr. Aug.); Mount Paradise, 300—400 m (Boldingh 3340, fl. & fr. Sept.).

The obtusish, 5-nerved, black-dotted leaves, wholly glabrous parts, and erect, branching plants are distinctive features of this species. It differs from P. glabella and P. nigropunctata in its more obtuse leaves, more erect growth habit, and less densely black-dotted parts. It differs from P. rupertiana in its

5- rather than 7-nerved leaves. Little if any difference has been discovered by means of which *P. Boldinghii* may be distinguished from this species. DeCandolle contrasted them on the basis of the lack of black dots in *P. Boldinghii*. There is so much variation in this character with the various specimens examined, otherwise obviously the same, sometimes even between leaves on the same plant, that it is not now believed to be a tenable distinction.

Peperomia alata R. & P.

RUIZ & PAVON, Fl. Peruv. & Chil. 1: 31, pl. 48. 1798; MIQUEL, Syst. Pip. 87. 1843; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 418. 1869; DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 109. 1900; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 241. 1902; FAWCETT & RENDLE, Fl. Jamaica 3: 18. 1914; YUNCKER, Rev. Soc. Bot. Cub. 6: 43, fig. 24. 1949; TRELEASE & YUNCKER, Piperac. northern S. Amer. 694, fig. 517. 1950; YUNCKER, Lilloa 27: 238. 1953; YUNCKER in PULLE, Fl. Suriname 1(2): 277. 1957; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 41. 1960; — *Piper alatum* VAHL, Enum. Pl. 1: 342. 1804; — *Peperomia pterocaulis* MIQUEL, Syst. Pip. 86. 1843; MIQUEL in MARTIUS, Fl. Bras. 4(1): 11. 1852; — *Peperomia alata* R. & P. var. *pterocaulis* C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 418. 1869; — *Peperomia pterocaulis* MIQUEL f. *filispica* TRELEASE in FEDDE, Repert. 23: 20. 1926 (as var. *filispica* p. 28); — *Peperomia pterocaulis* MIQUEL f. *stipiticarpa* TRELEASE in FEDDE, Repert. 23: 20. 1926; — *Peperomia pterocaulis* MIQUEL var. *palmamochana* TRELEASE in FEDDE, Repert. 23: 28. 1926.

A moderate-sized, glabrous, assurgent herb; stem 3—5 mm thick near the base when dry, ascending to 30 cm or more from the decumbent, rooting base, simple or sometimes branched, the internodes commonly 1—3 mm long, somewhat zig-zag upward, prominently winged below the nodes. Leaves alternate, elliptic-lanceolate to broadly elliptic, mostly 6—13 cm long and 2—4.5 cm wide, attenuately long-acuminate at the apex, the base acute, palmately 5—7-nerved or, more commonly, with the innermost nerves coalescing within the lowermost 5—10 mm, if 7-nerved the outermost pair rather obscure, drying thin, the margin ciliolate toward the apex; petioles mostly 5—10 mm long, or on some plants nearly suppressed, canaliculate, clasping-decurrent to form the internodal wings. Spikes terminal and from the upper axils, 1—2 mm thick and 6—8 (-15) cm long; peduncle about 10 mm long; bracts round-peltate; drupe globose-ovoid, about 1 mm long, often on prominent pseudo-pedicels, with oblique apex and subapical stigma.

West Indies and South America and, according to Dahlstedt, also in Central America and Mexico.

On humus, mossy rocks and tree trunks in moist forests.

SABA: Spring Bay Gut (Boldingh 2110, fl. & fr. July); without loc. (Boldingh 2191, fl. & fr.).

St. EUSTATIUS: top of The Quill (Stoffers 3967, fl. & fr. July).

St. MARTIN: Mount Paradise, 150—400 m (Boldingh 3196, fl. & fr. Sept.).

Peperomia serpens (Sw.) Loud.

LOUDON, Hort. Brit. 13. 1830, not C. DC. 1866; GRISEBACH, Fl. Br. W. Ind. Isl. 164. 1859; FAWCETT & RENDLE, Fl. Jamaica 3: 11. 1914; YUNCKER, Rev. Soc. Bot. Cub. 6: 65, fig. 37. 1949; YUNCKER, Ann. Mo. Bot. Gard. 37: 106. 1950; TRELEASE & YUNCKER, Piperac. northern S. Amer. 668, fig. 584. 1950; YUNCKER, Lilloa 26: 275. 1953; YUNCKER, Lilloa 27: 260, pl. 138. 1953; YUNCKER in PULLE, Fl. Suriname 1(2): 284. 1957; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 47. 1960; — *Piper serpens* SWARTZ, Prodr. Veg. Ind. Occ. 16. 1788; — *Peperomia scandens* RUIZ & PAVON, Fl. Peruv. & Chil. 1: 32, pl. 51, fig. 6. 1798; C. DECANDOLLE in URBAN, Symb. Ant. 3: 248. 1902; PULLE, Enum. 145. 1906; — *Piper scandens* VAHL, Enum. Pl. 1: 346. 1804, not Swartz 1788; — *Piper bracteatum* THOMPS., Trans. Linn. Soc. 9: 203, pl. 21. 1808; — *Peperomia repens* H.B.K., Nov. Gen. & Spec. 1: 65. 1815; — *Peperomia reniformis* HOOKER, Exot. Fl. 3: pl. 164. 1827; — *Piper guildingianum* SPRENGER, Syst. Veg. 4, Cur. Post. 20. 1827; — *Peperomia pulicaris* OPIZ in PRESL, Reliq. Haenk. 1: 162, pl. 30. 1830; — *Peperomia myosurus* hb. Willd. ex A. Dietr., Spec. Plant. 1: 159. 1831; — *Peperomia guildingiana* A. DIETR., Spec. Plant. 1: 162. 1831; — *Piper myosurus* Willd. hb. ex Dietr., Syn. Pl. 1: 110. 1839; — *Verhuellia serpens* MIQUEL, Syst. Pip. 49. 1843; — *Acrocarpidium pulicare* MIQUEL, Syst. Pip. 57. 1843; — *Acrocarpidium repens* MIQUEL, Syst. Pip. 57. 1843; MIQUEL in MARTIUS, Fl. Bras. 4(1): 19. 1853; — *Acrocarpidium scandens* MIQUEL, Syst. Pip. 59. 1843; — *Acrocarpidium guildingianum* MIQUEL, Lond. Journ. Bot. 4: 412. 1845; — *Peperomia ionophylla* GRISEBACH, Mem. Am. Acad. Nat. Sci. 8: 175. 1861; — *Peperomia reptans* C. DECANDOLLE, Journ. Bot. 4: 143. 1866; — *Peperomia scandens* var. *fertilior* C. DECANDOLLE in DECANDOLLE, Prodr. 16(1): 434. 1869.

A small, repent or scandent, crisp-pubescent, epiphytic or terrestrial herb; stem slender, the internodes variable, commonly 1—3 or 4 cm long. Leaves alternate, round-subdeltoid, mostly 1—2 cm wide, or occasional leaves up to 3 cm, with acute or obtuse apex and truncate-cordulate base, palmately 3—5-nerved, both sides more or less crisp-pubescent, the margin ciliolate toward the apex, drying rather thin and membranaceous; petiole 5—30 mm long, crisp-pubescent. Spikes axillary and sympodially terminal, about 1 mm thick and up to 3 cm long, closely flowered; peduncle 1- or rarely 2-bracteate, usually about as long as or sometimes longer than the spike, crisp-pubescent; bracts round-peltate; drupe about 1 mm long, ellipsoidal, the stigma at the base of a slender, pointed beak.

West Indies and on the mainland from Panama throughout the range of the genus in South America.

On mossy rocks, logs, and trees in humid forest.

SABA: The Bottom, side of mountain slope, 400—500 m (Stoffers 3119, fl. & fr. Ap.).

ST. EUSTATIUS: bottom of The Quill, 300 m (Boldingh 434, fl. & fr. June); ibid. 250 m (Stoffers 3643, st. July).

Peperomia urocarpa Fisch. & Mey.

FISCHER & MEYER, Index Sem. Petropol. No. 1577. 1837; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 433. 1869; DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 81, pl. 2, fig. 23. 1900; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 247. 1902; YUNCKER, Rev. Soc. Bot. Cub. 6: 68, fig. 38. 1949; TRELEASE & YUNCKER, Piperac. northern S. Amer. 673, fig. 588. 1950; YUNCKER, Lilloa 27: 262, pl. 139. 1953; — *Acrocarpidium urocarpum* MIQUEL, Syst. Pip. 60. 1843; — *Acrocarpidium majus* MIQUEL, Syst. Pip. 60. 1843; — *Peperomia hederacea* MIQUEL in MARTIUS, Fl. Bras. 4(1): 20. 1853; — *Peperomia major* C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 432. 1869.

A moderate-sized, wide-creeping herb; stem 2—3 mm thick when dry, appressed-pubescent, rooting at the nodes, ascending at the ends. Leaves alternate, round-ovate, with abruptly short-acute apex and rounded or cordate base, 2—3 or sometimes up to 4—5 cm wide, more or less crisp-pubescent on both sides, the margin ciliolate toward the apex, palmately about 7-nerved, drying rather thin, translucent; petiole 2—4 cm long, crisp-pubescent. Spikes axillary or sympodial toward the ends of the branches, closely flowered, 3—4 cm long, on equilong, 1—2-bracteate, crisp-pubescent peduncles; floral bracts round-peltate; drupe about 1 mm long, rostrate, the stigma at the base of the commonly granulate beak.

West Indies and South America.

On mossy rocks, logs, tree trunks, etc. in humid forest.

SABA: The Mountain, 800 m (Boldingh 1825, fl. & fr. July); without loc. (Boldingh 2217a, fl. & fr.).

Peperomia magnoliifolia (Jacq.) A. Dietr.

A. DIETRICH, Spec. Plant. 1: 153. 1831; MIQUEL, Syst. Pip. 97. 1843; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 427. 1869; DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 58, pl. 2, fig. 1. 1900; PULLE, Enum. 144. 1906; FAWCETT & RENDLE, Fl. Jamaica 3: 9. 1914; YUNCKER, Rev. Soc. Bot. Cub. 6: 82, fig. 46. 1949; YUNCKER, Ann. Mo. Bot. Gard. 37: 110. 1950; TRELEASE & YUNCKER, Piperac. northern S. Amer. 681, fig. 597. 1950; YUNCKER, Lilloa 26: 277. 1953; YUNCKER in PULLE, Fl. Suriname 1(2): 287. 1957; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 53. 1960; — *Piper magnoliaefolium* JACQUIN, Collect. 3: 210. 1798; — *Piper subrotundum* HAW., Rev. Pl. Succ. 2. 1819; — *Peperomia subrotunda* A. DIETRICH, Spec. Plant. 1: 154. 1831; — *Peperomia obtusifolia* A. DIETRICH f. *grandifolia* MIQUEL, Syst. Pip. 196. 1843, fide Dahlstedt; — *Peperomia amplexicaulis* (Sw.) A. DIETR. var. *magnoliaefolia* (A. Dietr.) GRIEBACH, Fl. Br. W. Ind. Isl. 167. 1859; — *Peperomia magnoliaefolia* (Jacq.) A. DIETR. var. *sintenisiana* DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 59. 1900; — *Peperomia euosma* TRELEASE in FEDDE, Repert. 23: 29. 1926; — *Peperomia antoni* TRELEASE, Ann. Mo. Bot. Gard. 27: 299. 1940; — *Peperomia antoni* TRELEASE f. *lutea* TRELEASE, Ann. Mo. Bot. Gard. 27: 300. 1940.

A moderately large, trailing-assurgent, glabrous, succulent herb; stem 3—5 mm thick when dry, rooting at the lower nodes, ascending to 25 or more cm, the internodes mostly 1—5 or 6 cm long. Leaves alternate, round- or obovate-elliptic, or subspatulate, 6—15 cm long and 3—8 cm wide, the apex rounded,

often emarginate, or sometimes slightly narrowed and acute, the base cuneate or sometimes rather abruptly contracted, 7—9-plinerved from near the base, the midrib pinnately branched upward, rather prominent, the laterals slender and obscure, drying dull, coriaceous and opaque; petiole 1—3 cm long, more or less laterally ridged or winged. Spikes 2—3 mm thick and up to 15—18 cm long, closely flowered, 1, 2, or sometimes 3 on a terminal or leaf-opposed, bracted stalk 5—10 cm long; peduncle 1.5—3 cm long, glabrous; floral bracts round-peltate, mostly about 0.5 mm wide; drupe about 1.25 mm long, ellipsoidal, rostrate, the beak awl-shaped, acute, more or less curved, from one-fourth to one-half or sometimes nearly as long as the drupe, the stigma at the base of the beak.

West Indies, Panama, and northern South America.

On humus and mossy rocks, logs etc. in forest or open shaded areas.

SABA: Spring Bay Gut (Boldingh 2102, fl. & fr. July); The Mountain, 600 m (Boldingh 1757, st. July); between Windwardside and Hellsgate, 400—450 m (Stoffers 3363, fl. & fr. May).

ST. EUSTATIUS: top of The Quill, 350—450 m (Boldingh 242, fl. & fr. June; 353, fl. & fr. June; Stoffers 3920, fl. & fr. July); top of The Quill, above Glass Bottle, 380 m (Stoffers 3606, fl. & fr. July); between Glass Bottle and White Wall, 270 m (Stoffers 4060, fl. & fr. Aug.).

ST. MARTIN: Milldrum Hill, 300—400 m (Boldingh 3146, st. Sept.); Mount Paradise (LeGallo 848, st. July).

This species is not to be confused with *P. obtusifolia* (L.) A. Dietr. which has minutely puberulent inflorescence stalks and fruit with a slender beak abruptly hooked at the end.

Peperomia hernandiifolia (Vahl) A. Dietr.

A. DIETRICH, Spec. Plant. 1: 157. 1831; MIQUEL, Syst. Pip. 72. 1843; GRISEBACH, Fl. Br. W. Ind. Isl. 166. 1859; C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 436. 1869; DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 71, pl. 2, fig. 14. 1900; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 246. 1902; FAWCETT & RENDLE, Fl. Jamaica 3: 10. 1914; YUNCKER, Rev. Soc. Bot. Cub. 6: 64, fig. 36. 1949; TRELEASE & YUNCKER, Piperac. northern S. Amer. 730, fig. 653. 1950; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 46. 1960; — *Piper hernandiaeefolium* VAHL, Enum. 1: 344. 1804; — *Peperomia ponthei* MIQUEL, Syst. Pip. 186. 1843.

A repent, rather wide-spreading herb; stem minutely velvety puberulent. Leaves alternate, round-ovate, 5—9 cm long and 3—6 cm wide, with attenuately sharp-acuminate apex, the base rounded, peltate about 1 cm from the lower margin, 9—11-nerved from the base of the petiole, with a pair of lateral nerves coalescing with the midrib within the lowermost 10 mm, ciliolate, minutely puberulent on both sides or glabrescent above, drying subcoriaceous and subopaque; petiole 3—5 (-8) cm long, subretrorsely velvety puberulent. Spikes mostly 2—3 (-4) cm long, solitary, or paired on an axillary, 1-bracted stalk

3—5 (.8) cm long; drupe ellipsoidal, rostrate, about 1—1.25 mm long, including the beak, the stigma anterior at the base of the granulate beak.

West Indies and adjacent mainland of South America.

On moist rich humus of steep slopes, mossy rocks and logs, and tree trunks in forest.

SABA: The Mountain, 800 m (Boldingh 1808, fl. & fr. July); road to The Mountain (Arnoldo 961, fl. & fr. Aug.); top of The Mountain, 800—835 m (Stoffers 3467, st. June; 4211, fl. & fr. Aug.).

Peperomia emarginella (Sw.) C. DC.

C. DeCANDOLLE in DeCANDOLLE, Prodr. 16(1): 437. 1869; DAHLSTEDT, Kgl. Sv. Vet. Akad. Handl. 33(2): 22, pl. 1, fig. 4, pl. 4, fig. 4. 1900; C. DeCANDOLLE in URBAN, Symb. Ant. 3: 225. 1902; FAWCETT & RENDLE, Fl. Jamaica 3: 6. 1914; YUNCKER, Rev. Soc. Bot. Cub. 6: 8, fig. 2. 1949; TRELEASE & YUNCKER, Piperac. northern S. Amer. 710, fig. 633. 1950; YUNCKER, Lilloa 26: 267. 1953; YUNCKER, Lilloa 27: 264, pl. 141. 1953; YUNCKER, Piperaceae of Jamaica, Inst. Jam., Sci. Ser., Bull. 11: 29. 1960; — *Piper emarginellum* SWARTZ in Wikström, Vet. Akad. Handl. Stockh. 56. 1828; — *Peperomia exilis* GRISEBACH, Fl. Br. W. Ind. Isl. 164. 1859.

A very delicate, creeping herb; stem branching, filiform, glabrous. Leaves alternate, rounded or slightly broader than long, 3—5 mm wide, the apex truncate or more commonly emarginate, the base obtuse, subacute, or not infrequently narrowly peltate, palmately 3-nerved, the midrib branched upward, glabrous, or with a few scattered seta-like hairs, drying thin, translucent; petiole filiform, shorter than the blade. Spikes mostly about 1 cm long, terminal on short, erect branches; peduncle filiform, up to 1 cm long; drupe ellipsoidal or obpyriform, borne on a slender stalk, the apex obliquely scutelliform, the stigma apical.

West Indies, Central America and northern South America; the type from Guadeloupe.

On moist, mossy logs and tree trunks.

SABA: The Mountain, 800 m (Boldingh 1813, fl. & fr. July); top of The Mountain, 800—825 m (Arnoldo 933, st. Aug.; Stoffers 4202, st. Aug.).