

Huánuco: (*Haenke*).—Lima: Above Matucana (*Ball*). In rock detritus, 1,700 meters, above St. Bartholomé, *Weberbauer 1690*, type *M. cylindrostachya*. Purruchuco, *Née* (type, as at Geneva); also between Obrajillo and San Buenaventura, *Née* (Madrid).

Malesherbia turbinea Macbr. Field Mus. Bot. 4: 118. 1927.

Apparently allied to *M. haemantha* (only flowering branches known); calyx 12–15 mm. long, 7 mm. broad, sparsely pilose; crown 13 mm. high, irregularly denticulate-crenate; sepals 8–9 mm. long; pedicels nearly 15 mm. long; stamens scarcely exerted; capsules pilose, little exerted; seeds obscurely transversely but strongly longitudinally striate, about 1 mm. wide, nearly 2.5 mm. long.—Flowers blood-red, the anthers apparently white or yellowish. The upper bract-like oblong-ovate leaves are merely crenate. Each leaf-crenation is tipped with one long cilium.

Tacna: In rainy green shrubs and *Cereus*, Candarave, *Weberbauer 7364*, type.

Malesherbia Weberbaueri Gilg, Bot. Jahrb. 50: Beibl. 111: 11. 1913.

Densely appressed silky-villous simple-stemmed shrub with crowded linear-lanceolate sessile leaves and long terminal racemes of leafy bracted greenish yellow or reddish tinged subtubular flowers; leaves subentire or obscurely crenate-serrulate, 8–12 cm. long, about 1 cm. wide, acute base and apex; calyx 3.5–4 cm. long, 8–10 mm. wide, sepals lanceolate, acuminate, 7–8 mm. long, 2 mm. wide at base, the petals shorter and narrower; crown irregularly and slightly dentate; capsule included or barely exerted; seeds minutely and obscurely striate.—To about 1 meter high in steep, loose, rocky soils. Species distinctive in its closely appressed sericeous pubescence. F.M. Neg. 2460.

Huancavelica: Valley of the Huarpa, *Weberbauer 5672*, type.

PASSIFLORACEAE. Passionflower Family

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References: Masters in Mart. Fl. Bras. 13, pt. 1. 1872; Killip in Field Mus. Bot. 19. 1938.

Passifloraceae consists of 12 genera, four of which are found in the New World. By far the largest genus is *Passiflora*, which has about 400 species, nearly 360 of them being endemic to the New World. The flowers of most of the species occurring in Peru

are very showy, and their structure is highly complicated. The names commonly applied to passionflowers in Peru are "granadilla," "niorbo," and "tumbo." "Tumbo," "tintin" and "apincoya" are Quechua names (Cook).—Herrera has recorded the native name "inti sisa," but has by error associated it with a Brazilian species.

Stamens 5, in the Peruvian species borne on a well-developed gynophore; sepals 5; petals (if present) 5 1. *Passiflora*.

Stamens 8 or 10, inserted on the floor of the calyx; sepals and petals normally 4 2. *Dilkea*.

1. PASSIFLORA L.

Herbaceous or woody vines or scandent shrubs, usually climbing by tendrils, rarely (one Peruvian species) small trees or erect shrubs; leaves alternate, petiolate, simple or compound, lobed or unlobed, the petiole often glanduliferous; inflorescence axillary, simple or occasionally compound; bracts usually present, scattered or forming an involucre; calyx tube patelliform, campanulate, funnellform, or cylindric; sepals 5; petals 5, alternate with the sepals, sometimes wanting; corona of 1 to several series of distinct or more or less united filaments; operculum borne within the corona, membranous, flat or plicate, entire or filamentose; stamens 5, the filaments monadelphous in a tube closely adnate to a gynophore, distinct above, the anthers 2-celled; ovary borne on a gynophore; styles 3, the stigmas capitate; fruit indehiscent, containing a mucilaginous pulp; seeds borne on 3 parietal placentae, more or less compressed, reticulate, punctulate, or transversely grooved.

Passiflora rosea, probably a hybrid, has an abnormal genital structure, and the above description does not apply to it.

A. Ovary 3-angled, broadly truncate at apex, the styles projecting from the top of the angles; trees, shrubs, or woody vines, without tendrils or with weak ones; leaves simple, unlobed, entire; bracts and stipules setaceous, soon deciduous.

Calyx tube campanulate or cylindric-campanulate, shorter than the sepals; flowers white or greenish.

Peduncles terminating in a tendril *P. cirrhipes*.

Peduncles not terminating in a tendril.

Erect shrub or a tree; peduncles once-furcate . . *P. frutescens*.

Scandent shrubs; peduncles simple.

Corona filaments in about 6 series; leaves rounded or obtuse, coriaceous, strongly nerved *P. costata*.

Corona filaments in 2 series; leaves mostly acute, not strongly nerved, membranous. *P. Tessmannii*.

Calyx tube cylindric, longer than the sepals (subequal in *P. cauliflora*); flowers red, yellow, or orange, in short fascicles or in racemes.

Inflorescence fasciculate; operculum cleft into 5 linear segments.

Calyx tube less than 2.5 cm. long; ovary pubescent; leaves coriaceous. *P. cauliflora*.

Calyx tube about 3 cm. long; ovary glabrous; leaves membranous. *P. skiantha*.

Inflorescence racemose; operculum filamentose, at least part way.

Calyx tube puberulent; leaves ovate or ovate-oblong.

P. pyrrhantha.

Calyx tube glabrous; leaves oblong. *P. spinosa*.

- A. Ovary terete or subangular, not definitely 3-angled, acute or rounded, the styles projecting from the center of the top of the ovary, or the ovary tapering to the styles; herbaceous or sometimes woody vines, usually with well developed tendrils.

Tendrils of 2 forms, one axillary on the main stem, the other on one of each pair of peduncles. *P. heterohelix*.

Tendrils, if present, all axillary.

Petiolar glands globose, 3-4 mm. wide, with a stipe 6-8 mm. long; bracts borne at middle of peduncle, lacerate.

P. adenopoda.

Petiolar glands smaller or wanting; bracts scattered along peduncle or forming an involucre near base of flower, wanting in *P. rubra*.

- B. Bracts linear-subulate or setaceous, less than 1 mm. wide, scattered along the peduncle; flowers usually not more than 5 cm. wide and not highly colored; operculum plicate.

Petiolar glands present; seeds reticulate.

Petals none.

Leaves prevailingly transverse-oblong, much broader than long, the glands sessile, borne at or below the middle of the petiole. *P. coriacea*.

Leaves prevailingly 3-lobed (in Peruvian plants), longer than broad, the glands borne above the middle of the petiole. *P. suberosa*.

Petals present.

Leaves membranous, pubescent, dentate or denticulate, 3-lobed to below the middle, the petioles biglandular near the apex; ovary densely pilose. . . . *P. morifolia*.

Leaves coriaceous, essentially glabrous, entire, 3-lobed not more than to the middle, the petioles biglandular near the base; ovary glabrous. . . . *P. Lobbiai*.

Petiolar glands none, though in 2 species the petioles with auricular appendages near their base; seeds transversely sulcate.

Bracts none; fruit elongate-obovoid; seeds with smooth ridges.
P. rubra.

Bracts present; fruit globose or fusiform; seeds with rugulose ridges.

Leaves narrowly lanceolate to ovate-lanceolate, unlobed or with 2 reduced lateral lobes.

Peduncles 2-flowered; petioles without auricular appendages. . . . *P. quadriflora*.

Peduncles 1-flowered; petioles with 2 auricular appendages at or below the middle.

Plant glabrous or cinereous-pubescent; fruit globose, not more than 1.5 cm. in diameter. . . *P. auriculata*.

Plant ferruginous-tomentose; fruit broadly ovoid, more than 1.5 cm. in diameter. . . . *P. ferruginea*.

Leaves 2-3-lobed or, if subentire, broader than long.

C. Inner corona filaments linear, broadly dilated at the apex and often lobulate.

Ovary densely cano-tomentose. . . . *P. leptoclada*.

Ovary glabrous.

Leaves 3-lobed a third to a half their length, the lobes ascending, acute or subacute.

Leaves coriaceous or subcoriaceous, lustrous above, green beneath. . . . *P. tricuspis*.

Leaves membranous, dull above and fasciate along the nerves, reddish beneath. . . . *P. trifasciata*.

Leaves 2-lobed, the lobes widely divergent (hence leaves transversely oblong), occasionally with a small intermediate lobe present.

Petals none; sepals broadly ovate; ovary ovoid.

P. Poeppigii.

Petals present; sepals linear-lanceolate; ovary fusiform.
P. amalocarpa.

C. Inner corona filaments filiform, capillary.

Leaves distinctly longer than broad, shallowly bilobate,
 densely pilosulous beneath. *P. bauhinifolia.*

Leaves broader than long or the length along the midnerve
 subequal to the greatest width, glabrous or pulverulent
 beneath.

Ovary white-sericeous; leaves finely pulverulent beneath.
P. Candollei.

Ovary glabrous; leaves glabrous or very sparingly pubescent
 beneath.

Peduncles more than 4 cm. long; outer corona filaments
 falcate, conspicuously dilated near the middle.
P. punctata.

Peduncles less than 4 cm. long; outer corona filaments
 straight, not dilated.

Fruit ellipsoidal, 6-ribbed, stipitate; leaves membran-
 ous; sepals thin-transparent. *P. tenella.*

Fruit globose or subglobose; leaves coriaceous; sepals
 rather fleshy.

Leaves truncate or subtruncate along the upper
 margin; flowers 4-5 cm. wide; outer corona
 filaments 1 cm. long or more. *P. vespertilio.*

Leaves distinctly 3-lobed, the lobes subequal; flowers
 1.5-2 cm. wide; outer corona filaments much
 less than 1 cm. long. *P. obtusiloba.*

B. Bracts usually foliaceous, more than 1 mm. wide, ovate,
 lanceolate, or cordate (occasionally narrowly linear and very
 narrow in *P. quadriglandulosa*), forming an involucre near
 base of flower, sometimes coalescent part way; flowers usually
 more than 5 cm. wide and highly colored; operculum not
 plicate.

D. Calyx tube long-cylindric, longer than the sepals; corona
 1- or 2-ranked, usually reduced to tubercles.

Leaves not lobed, lanceolate. *P. lanceolata.*

Leaves 3-lobed or 3-foliolate.

Leaves 3-foliolate. *P. trifoliata.*

Leaves 3-lobed.

Bracts free to the base.

Plant glabrous; stipules setaceous; leaves not more than 5 cm. long; corona a sinuate ridge.

P. gracilens.

Plant pubescent; stipules pinnatisect or deeply cleft; leaves fully 5 cm. long; outer rank of corona short-filamentose.....*P. pinnatistipula.*

Bracts united part way.

Stipules narrowly linear.....*P. Matthewsii.*

Stipules oblong, ovate, or subreniform.

Flowers violet, the tube not more than 3.5 cm. long; plant glabrous.....*P. glaberrima.*

Flowers red or pink, the tube more than 3.5 cm. long; plants glabrous or pubescent.

Leaves small, less than 4 cm. long and 6 cm. wide; peduncles very slender.....*P. parvifolia.*

Leaves larger; peduncles stout.

Involucre about two-thirds the length of the calyx tube.....*P. macrochlamys.*

Involucre not two-thirds the length of the calyx tube, usually less than half.

Stipules more than 2.5 cm. long; leaves thick-coriaceous, lustrous above; plant glabrous.....*P. anastomosans.*

Stipules less than 2.5 cm. long; leaves membranous or subcoriaceous, rarely coriaceous; plants usually pubescent.

Petioles 2- or 3-glandular at the middle, the glands at least 1.5 mm. long.

P. mesadenia.

Petioles 4-12-glandular, the glands less than 1.5 mm. long, scattered.

Stem terete, yellow-pubescent; calyx tube glabrous.....*P. mollissima.*

Stem angular, glabrous or grayish pubescent; calyx tube glabrous or pubescent.....*P. mixta.*

D. Calyx tube campanulate to short-cylindric, usually much shorter than the sepals; corona in 3 or more ranks, or if 2-ranked, the inner rank tubular.

Leaves 3-foliolate.

Plant glabrous; bracts lacerate-serrate *P. Weberbaueri*.

Plant densely tomentose; bracts deeply lacinate-fimbriate.
P. trisecta.

Leaves simple, unlobed or variously lobed.

Bracts and stipules deeply pinnatisect into filiform, gland-tipped divisions; plant often viscous, ill-scented.

Seeds more than 6 mm. long and 3 mm. wide; lateral leaf lobes ascending; plant densely rufo-hirsute.

P. vestita.

Seeds smaller; lateral leaf lobes usually divergent.

P. foetida.

Bracts and stipules not pinnatisect.

E. Operculum dependent, the margin not recurved.

Stipules semi-ovate or subreniform, serrate, persistent; leaves 3-lobed; corona filaments of each rank distinct to base.

Flowers red; peduncles rarely more than 8 cm. long; bracts free, or united only at base *P. manicata*.

Flowers white; peduncles 10–15 cm. long; bracts united halfway *P. peduncularis*.

Stipules linear or setaceous, deciduous; leaves lobed or unlobed; corona filaments of the inner rank united part way into a tube.

Two outer ranks of corona filaments purple at apex, white at base; leaves never lobed; bracts ovate, at least 1 cm. wide *P. coccinea*.

Two outer ranks of corona filaments red or white; leaves often polymorphic, unlobed to 3-lobed; bracts usually narrower.

Plant essentially glabrous *P. quadriglandulosa*.

Plant ferruginous-tomentose *P. vitifolia*.

E. Operculum erect or horizontally spreading, not dependent.

Calyx tube cylindric, subequal to the sepals; sepals and petals red; peduncles 10–16 cm. long, very slender.

P. tarapotina.

Calyx tube campanulate or broadly short-tubular, much shorter than the sepals; sepals and petals variously colored, red only in *P. alata*; peduncles usually much less than 10 cm. long.

Stem quadrangular, the angles winged; seeds more than 5 mm. wide.

Petioles 6-glandular; leaf nerves 10 or more to a side; stipules ovate to lance-ovate... *P. quadrangularis*.

Petioles 2-4-glandular; nerves about 8 to a side; stipules linear or linear-lanceolate..... *P. alata*.

Stem terete or angular, the angles not winged; seeds not more than 5 mm. wide.

Leaves palmately 5-9-lobed to below the middle (rarely a few 3-lobed leaves in *P. caerulea*).

Stipules linear-subulate; bracts united in the lower part; leaf lobes serrulate... *P. serrato-digitata*.

Stipules semi-ovate; bracts free to the base; leaf lobes entire..... *P. caerulea*.

Leaves unlobed or 3-lobed.

Stipules linear or setaceous, often soon deciduous; leaves not lobed.

Ovary glabrous..... *P. nitida*.

Ovary sericeo-tomentose.

Outermost rank of corona filaments shorter than the second rank; flowers solitary in the axils or in pairs..... *P. laurifolia*.

Outermost rank of corona filaments as long as the second rank; flowers borne on short, axillary branches..... *P. riparia*.

Stipules ovate to oblong.

Bracts united, at least toward the base, more than 2 cm. long.

Petiole glands liguliform, often appearing filiform when dry, at least 3 mm. long.

P. ligularis.

Petiole glands not liguliform, shorter, sessile or short-stipitate.

Leaves minutely denticulate, usually 3-lobed; corona 3-ranked..... *P. triloba*.

Leaves entire at margin, never lobed; corona about 5-ranked..... *P. tiliaefolia*.

Bracts free to the base, usually less than 2 cm. long; stipules semi-ovate to semi-oblong,

attached on one side above the base, hence often appearing reniform.

Plant glabrous throughout.

Leaves suborbicular in general outline, 3-lobed at the apex; bracts imbricate, unequal, one smaller than the others and borne a short distance below them.

P. cuzcoensis.

Leaves lanceolate or deeply 3-lobed; bracts verticillate.

Leaves lanceolate, not lobed. . . *P. loretensis.*

Leaves 3-lobed.

Leaves peltate at least 5 mm. from the lower margin, 10–20 cm. wide.

P. spectabilis.

Leaves not peltate.

Sepals dorsally awned with a foliaceous awn 5 mm. long or more; flowers 6–9 cm. wide. *P. subulata.*

Sepals merely mucronulate; flowers 3–5 cm. wide. *P. aristulata.*

Plant hispid-hirsute throughout.

Ovary glabrous; bracts narrowly lanceolate or elliptic-lanceolate, less than 5 mm. wide, minutely glandular-denticulate.

P. menispermifolia.

Ovary pubescent; bracts ovate or ovate-lanceolate, more than 5 mm. wide, serrate or entire.

Leaves ovate or ovate-lanceolate, entire or lobulate near base; petiolar glands not more than twice longer than thick.

P. crassifolia.

Leaves 3-lobed; petiolar glands more than twice longer than thick. . . *P. nephrodes.*

Passiflora adenopoda DC. Prodr. 3: 330. 1828. *P. acerifolia* Schlecht. & Cham. Linnaea 5: 89. 1830.

Stem glabrate or hispidulous; stipules semi-orbicular, about 1.5 cm. wide; petioles conspicuously biglandular toward the base, the

glands globose, 2–4 mm. in diameter, with a slender stipe 6–8 mm. long; blades 7–12 cm. long, 8–15 cm. wide, 3–5-lobed, deeply cordate, entire or denticulate, hispidulous; peduncles solitary or in pairs, bearing near the middle 3 lanceolate or oblong, lacerate bracts 7–10 mm. long, 4–6 mm. wide; flowers up to 7 cm. wide, whitish or yellowish; sepals oblong-lanceolate, terminating in a conspicuous horn; petals linear-lanceolate, much shorter than the sepals; corona filaments in a single series, filiform, 1.5–2 cm. long, white, purple-banded; ovary densely brown-tomentose; fruit globose, 2–2.5 cm. in diameter; seeds reticulate.

Junín: La Merced, 900 meters, 5561. Mexico to Venezuela: foothills and lower mountain slopes, 900 to 1,600 meters.

Passiflora alata Dryand. Bot. Mag. 2: pl. 66. 1788. *P. latifolia* DC. Prodr. 3: 328. 1828. *P. alata* var. *latifolia* Mast. Trans. Linn. Soc. 27: 635. 1871.

Plant glabrous throughout; stem stout, quadrangular, the angles winged; stipules linear or linear-lanceolate; petioles 2–4-glandular, the glands orbicular, sessile; blades ovate or ovate-oblong, 8–15 cm. long, 7–10 cm. wide, entire or minutely denticulate, penninerved, the principal secondary nerves 7 or 8 to a side, the upper ones distant; bracts ovate, about 1.5 cm. long; flowers 10–12 cm. wide, crimson or carmine, the corona filaments variegated with red, white, and purple; sepals and petals oblong; corona 4-ranked; fruit obovoid or pyriform, 8–10 cm. long.

Loreto: Iquitos, 100 meters, *Killip & Smith 27468*.—Without locality: *Dombey* (or *Pavón?*) 738, type of *P. latifolia*. Perhaps introduced into Peru from eastern Brazil, where apparently indigenous.

Passiflora amalocarpa Barb. Rodr. Vellozia 1: 29. pl. 12. 1888; ed. 2. 1: 25. 1891; 3, pt. 1: pl. 12. 1891.

Plant glabrous throughout; stipules narrowly linear, subfalcate; petioles glandless; blades membranous, transversely oblong or transversely linear-oblong in general outline, 3-lobed or sometimes truncate at upper margin, 1–4 cm. along midnerve, 3.5–6.5 cm. along lateral nerves, 7–12 cm. wide, the middle lobe usually well developed, truncate or rounded; peduncles solitary, up to 5 cm. long; bracts linear-setaceous; flowers 3.5–4 cm. wide, apparently greenish white; sepals linear-lanceolate; petals linear, about half as long as the sepals; corona 2-ranked, the outer filaments filiform, subequal to the petals, the inner narrowly linear, 2–3 mm. long, capitate and emargi-

nate; operculum closely plicate; ovary fusiform; fruit fusiform, 3.5–4 cm. long, 1–1.5 cm. in diameter; seeds transversely sulcate.

Loreto: Lower Río Nanay, *Williams 526*. Known otherwise only from the type locality, Manaus, Brazil.

Passiflora anastomosans (Lambert) Killip, Journ. Wash. Acad. Sci. 17: 428. 1927. *Tacsonia anastomosans* Lambert ex DC. Prodr. 3: 335. 1828.

Plant essentially glabrous throughout; stipules semi-ovate, about 3 cm. long, aristulate; petioles 2–4-glandular near the apex, the glands sessile; blades 7–9 cm. long, 7–12 cm. wide, 3-lobed about to the middle, callous-serrate, conspicuously reticulate-veined, thick-coriaceous, very smooth and lustrous above; peduncles 2.5–3 cm. long; bracts 6–7 cm. long, connate one-half to two-thirds their length; calyx tube cylindric, 8–9 cm. long; sepals and petals oblong-lanceolate; corona minutely tuberculate; fruit ovoid-ellipsoidal.

Huánuco: Pozuzo, *Pavón*, type.

Passiflora aristulata Mast. in Mart. Fl. Bras. 13, pt. 1: 570. 1872.

Plant glabrous; stipules cordate or semicordate, aristulate; petioles filiform, biglandular near the middle; blades 3-lobed about to the middle, 3–4 cm. long, 4–6 cm. wide, the lobes broadly oblong-ovate, obtuse, subequal; bracts broadly ovate, about 1 cm. long, borne at base of flower; flowers 3–4.5 cm. wide, greenish white; calyx tube campanulate; sepals oblong, dorsally mucronulate; petals ovate-oblong; corona filaments light purple, in 4 series, the outer 2 filiform, the inner ones narrowly linear, subclavate; operculum fimbriate in the upper half; ovary ovoid; fruit edible.

San Martín: Tarapoto, *Spruce 3988*, type. Juanjuí, *Poeppig* in 1830.—Loreto: Lower Río Huallaga, 200 meters, *Williams 5180*. Rancho Indiana, Río Marañón, 110 meters, *Mexia 6424*. "Sandía."

Passiflora auriculata HBK. Nov. Gen. & Sp. 2: 131. 1817. *P. cinerea* Poepp. & Endl. Nov. Gen. & Sp. 2: 57. pl. 177. 1838.

Stem glabrous or finely pubescent; stipules filiform; petioles up to 2 cm. long, bearing close to the base 2 auricular appendages about 2 mm. wide; blades prevailingly ovate-lanceolate in general outline, 5–15 cm. long, 2–10 cm. wide, subentire or undulately or angulately 3-lobed, acuminate, glabrous above, glabrate or cinereous-pubescent beneath; peduncles in pairs, up to 1 cm. long; bracts setaceous; flowers 2–2.5 cm. wide; sepals narrowly oblong-lanceolate,

yellowish green or pale greenish; petals linear, about half as long as the sepals, white; corona 2-ranked, the outer filaments filiform, yellowish green, purple at the base, the inner capitate, white; operculum closely plicate; ovary pilosulous; fruit globose, 1–1.5 cm. in diameter; seeds obovate, transversely grooved.

San Martín: Tarapoto, *Ule* 9644.—Loreto: Mainas, *Poeppig* 1790 (type of *P. cinerea*), 2302. Yurimaguas, 135 meters, *Killip & Smith* 27589, 28047, 28311, 29035; *Williams* 4226, 7873. Iquitos, 100 meters, *Klug* 141; *Meria* 6388. Río Marañón, *Tessmann* 4933. Balsapuerto, 220 meters, *Klug* 2933.—Junín: Puerto Yessup, 400 meters, *Killip & Smith* 26336. Nicaragua to the Guianas and Amazonian Brazil and Bolivia.

Passiflora bauhinifolia HBK. Nov. Gen. & Sp. 2: 132. 1817.

Stem softly pubescent; stipules linear-subulate, subfalcate, purplish; petioles glandless; blades oblong or ovate-oblong in general outline, 5–9 cm. long, 4–6.5 cm. wide, shallowly lobate, glabrescent above, sparingly or densely appressed-pilosulous beneath; peduncles solitary or in pairs; bracts linear-setaceous, purplish; sepals oblong-lanceolate, about 1 cm. long; petals ovate-lanceolate, half as long as the sepals, white; corona filaments in 2 poorly marked series, the outer narrowly liguliform, almost filiform, subtrigonous, the inner capillary; operculum plicate; ovary densely villous; fruit globose, about 1 cm. in diameter; seeds transversely 6- or 7-sulcate.—F.M. Neg. 16521.

Cajamarca: Huambo, *Raimondi* 2233. Ecuador.

Passiflora caerulea L. Sp. Pl. 959. 1753.

Plant glabrous and often glaucous throughout; stipules semi-ovate; petioles 2–6-glandular, the glands stipitate; blades palmately 5 (rarely 3, 7, or 9)-lobed nearly to the base, the lobes linear-oblong to broadly ovate-oblong, up to 10 cm. long, usually obtuse, entire; bracts broadly ovate, 1.5–2.5 cm. long, borne close to the flower base; flowers up to 10 cm. wide, white or pinkish; calyx tube cup-shaped, the sepals and petals oblong; corona filaments in 4 series, those of the 2 outer radiate, from a half to as long as the petals, blue at the apex, white at the middle, purple at the base, the inner filaments much shorter; operculum filamentose part way; fruit ovoid or subglobose, about 4 cm. in diameter; seeds coarsely reticulate.

Lima: Lima Botanical Garden, *Killip & Smith* 21530.—Tacna: Tacna, cultivated, *Rusby* 489.—Without locality: *Dombey* 740. A native of east-central Brazil to Argentina, widely cultivated.

Passiflora Candollei Tr. & Planch. Ann. Sci. Nat. sér. 5. 17: 161, footnote. 1873. *P. lunata* Juss. ex DC. Prodr. 3: 331. 1828, not *P. lunata* J. E. Sm. or Poepp. & Endl.

Stem usually finely pulverulent; stipules linear-subulate, falcate, coriaceous; petioles glandless; blades 5–10 cm. along midnerve, 7–15 cm. along lateral nerves, 7–15 cm. wide, bilobed (lobes lanceolate, acuminate, the sinus broadly lunate, with an intermediate lobe sometimes present, or the upper margin subtruncate), bright green, lustrous, and glabrous above, dull and finely pulverulent beneath; bracts setaceous; flowers 3–5 cm. wide; sepals broadly oblong, fleshy, white within; petals ovate-oblong, white, pink-tinged; corona 2-ranked, the outer filaments 8–10 mm. long, subtrigynous, yellow, the inner filiform, much shorter, minutely capitellate, light green; operculum closely plicate; ovary white-sericeous; fruit globose, 1.5–2 cm. in diameter; seeds transversely sulcate.

Amazonas: Chachapoyas, *Mathews*.—Loreto: Iquitos, 100 meters, *Killip & Smith 27143, 27438*; *Williams 8070, 8180*. Río Itaya, *Killip & Smith 29375, 29503, 29693, 29734, 29735*; *Tessmann 5273*. Mishuyacu, *Klug 1306, 1581, 2521*. Mouth of Río Santiago, *Tessmann 4942*. Lower Río Huallaga, *Williams 4175*; *Killip & Smith 27825*. Fontaleza, *Klug 2788*. Río Paranapura, *Klug 3945*.—Huánuco: Pampayacu, 1,100 meters, *5123*. Río Cayumba, 1,100 meters, *Mezia 8213*. Chinchao, *Ruiz & Pavón*.—Junín: La Merced, 700 meters, *Killip & Smith 23517*. Colonia Perené, 680 meters, *Killip & Smith 25000, 25423*. Puerto Yessup, 400 meters, *Killip & Smith 26308*. Puerto Bermúdez, 375 meters, *Killip & Smith 26607*.—Department uncertain: Hacienda Chahuapuquio, *Stevens 146*.—Without locality: *Dombey 742*, type; *Pavón*. Known also from a single Bolivian collection.

Passiflora cauliflora Harms, Verh. Bot. Ver. Brandenb. 48: 185. 1907.

Scandent shrub, glabrescent throughout except the ovary; leaves oblong, 15–18 cm. long, 6–10 cm. wide, obtusely acuminate or acute, entire, coriaceous, with a dark, thickened band at the margin; flowers “brown-yellow” (*Klug*), borne in short axillary fascicles; calyx tube cylindric, 1.5–2 cm. long; sepals and petals oblong, 1.5–2.5 cm. long; corona filaments in 3 series, the outermost subdolabriform, nearly 1.5 cm. long, the others narrowly linear, much shorter; operculum erect, cleft in the upper third into 5 linear segments; ovary narrowly obovoid, softly ferruginous-tomentellous.—F.M. Neg. 16522.

San Martín: Zepelacio, 1,600 meters, *Klug 3469*.—Loreto: Cerro de Escalera, near Tarapoto, 1,300 meters, *Ule 6679*, type. Mouth of Río Santiago, *Tessmann 4588*. Recently collected also at Manaos, Brazil, by A. Ducke.

Passiflora cirrhipes Killip, Field Mus. Bot. 19: 522. 1938.

Woody vine, glabrous throughout except the ovary; leaves ovate or oblong-ovate, 5–9 cm. long, 4–5.5 cm. wide, sharply acuminate, membranous; peduncles slender, bifurcate, terminating in a reduced or a well-developed tendril, flowers white; calyx tube cylindrical-campanulate, up to 1 cm. long; sepals linear-oblong, about 1.5 cm. long; petals spatulate; corona filaments in 3 series, erect, the outermost subdolabriform, yellow; operculum fimbriate about halfway; ovary rufo-tomentose.

San Martín: Zepelacio, near Moyobamba, 1,100–1,600 meters, *Klug 3883*, type.

Passiflora coccinea Aubl. Pl. Guian. 2: 828. *pl. 324*. 1775.

Plant rufo-puberulent or rufo-tomentose nearly throughout; stipules narrowly linear, entire or minutely glandular-serrulate; petioles glandless, or biglandular at the base; blades oblong, 6–14 cm. long, 3–7 cm. wide, not lobed, subcordate, duplicate-serrate or crenate, glabrous or sparingly pubescent above, ferruginous- or cano-tomentose beneath; peduncles up to 8 cm. long; bracts ovate, up to 6 cm. long, 1–3.5 cm. wide, free to base, coriaceous, crenate or sharply serrate, usually glandular at the margin, reddish; flowers scarlet or red; calyx tube short-cylindrical-campanulate, up to 2 cm. long; sepals linear-lanceolate, 3–5 cm. long; petals linear; corona in 3 series, the 2 outer consisting of subulate filaments about 1 cm. long, purple above, pink or white below, the inner rank tubular, filamentose only at the margin, white; ovary yellowish-tomentose; fruit subglobose or ovoid, about 5 cm. in diameter; seeds minutely reticulate.

San Martín: Lamas, 840 meters, *Williams 5069, 6379*.—Loreto: Masisea, 275 meters, *Killip & Smith 26851*. Yurimaguas, 135 meters, *Killip & Smith 27574, 27995, 29062*; *Williams 4745, 7821*. Lower Río Huallaga, 155–210 meters, *Williams 3894, 3917, 4145*. Río Marañón Valley, 150 meters, *Killip, Smith, & Dennis 29186, 29214*. Río Pastaza, *Tessmann 3787*. Río Ucayali, *Huber 1411, 1486*; *Tessmann 3187*.—Junín: Puerto Yessup, 400 meters, *Killip & Smith 26290*. Puerto Bermúdez, 375 meters, *Killip & Smith 26673*. Cahuapanas, 340 meters, *Killip & Smith 26820*.—Ayacucho: Kimpitiriki,

400 meters, *Killip & Smith 22909*.—Cuzco: Marcapata Valley, 1,200 meters, *Herrera 1155*.—Department uncertain: Pampa del Sacramento, *Castelnau* in 1847.—Without locality: *Weberbauer 6761*. Guianas to Peru, Bolivia, and northern Brazil. “Granadilla.”

Passiflora coriacea Juss. Ann. Mus. Hist. Nat. Paris 6: 109. *pl. 39, f. 2*. 1805.

Plant essentially glabrous throughout; stipules narrowly linear; petioles 2 (rarely 4)-glandular usually below the middle, the glands sessile; blades transversely oblong, acute, rarely obtuse at the ends, 3–7 cm. long (midnerve), 7–25 cm. wide, peltate, coriaceous; upper inflorescence a terminal raceme, the lower flowers solitary or in pairs in the leaf axils; bracts setaceous; flowers 2.5–3.5 cm. wide, yellowish green; sepals oblong-lanceolate; petals none; corona filaments in 2 series, the outer ones filiform, the inner linear; operculum plicate; fruit globose, 1–2 cm. in diameter; seeds coarsely reticulate.

San Martín: Tarapoto, *Spruce 4532*; *Ule 6461*. Chasuta, 260 meters, *Klug 3963*. Alto Río Huallaga, *Williams 5517, 5751*—Junín: San Ramón, 1,000 meters, *Killip & Smith 24907*.—Without locality: *Haenke 1882*. Mexico to Peru and northern Bolivia; reported once from British Guiana. “Uchu anquirisi.”

Passiflora costata Mast. in Mart. Fl. Bras. 13, pt. 1: 573. 1872.

A subscaudent shrub with few tendrils, the branches puberulent; leaves obovate to narrowly oblong-obovate, up to 25 cm. long and 16 cm. wide, rounded and often emarginate at the apex, entire, penninerved, coriaceous, usually finely puberulent beneath; peduncles solitary or in pairs, 1-flowered; bracts narrowly linear; flowers 6–7 cm. wide, white, fragrant; calyx tube broadly campanulate or slightly funnel-shaped; sepals oblong-lanceolate, 3–4 times longer than the tube; petals oblong-spatulate; corona filaments in about 6 series, the outermost filaments 1.5–2 cm. long, orange, reddish at the middle, the others much shorter; operculum minutely denticulate; ovary narrowly ovoid, densely tomentose.

Loreto: Iquitos, *Tessmann 3675*. Soledad, *Tessmann 5286*. Guianas and the Amazon Basin.

Passiflora crassifolia Killip, Journ. Wash. Acad. Sci. 20: 380. 1930.

Stem densely villous with spreading, grayish hairs; stipules sub-reniform, aristate; petioles 4–6-glandular, scattered; blades lanceolate or ovate-lanceolate, 10–18 cm. long, 6–12 cm. wide, unlobed or rarely

slightly lobate below the middle, obtuse, deeply cordate, thick-coriaceous, glabrous, appressed-villous on the nerves and veins beneath; bracts lanceolate, 1.5–2 cm. long, sharp-acuminate, entire; calyx tube tubular-campanulate; sepals oblong, dorsally awned; corona filaments in 3 or 4 series, the outermost about 7 mm. long; operculum filamentose in the upper half; fruit ovoid or ellipsoidal, 4–6 cm. long, villosulous; seeds coarsely reticulate.

Junín: La Merced, 700 meters, 5371; Killip & Smith 23382, 23434, type. Colonia Perené, 600 meters, Killip & Smith 25181.

Passiflora cuzcoensis Killip, Journ. Wash. Acad. Sci. 20: 379. 1930.

Plant glabrous; stipules semi-oblong, 2–2.5 cm. long; petioles biglandular in the upper third, the glands minute, subulate; blades suborbicular in general outline, 5–7 cm. long, 5- or 7-nerved, 3-lobed at the apex, the lobes rounded; peduncles slender, up to 3.5 cm. long; bracts subimbricate, unequal (one larger than the others), cordate, 2.5–3 cm. long, crenate-serrulate toward the apex; flowers about 5 cm. wide; calyx tube campanulate; sepals and petals lance-oblong, the sepals awned dorsally just below the apex, the awn foliaceous; corona filaments in 2 series, the outer radiate, about 2 cm. long, the inner filiform, up to 2 mm. long; operculum denticulate.

Cuzco: Marcapata Valley, near Chilechile, Weberbauer 7872, type.

Passiflora ferruginea Mast. in Mart. Fl. Bras. 13, pt. 1: 556. 1872.

Stem rufo-tomentose; stipules narrowly linear; petioles up to 5 cm. long, bearing near the middle 2 auriculate appendages; blades broadly ovate in general outline, 8–20 cm. long, 5–12 cm. wide, subangulately 3-lobed, rounded at the apex, sinuate-dentate or sinuate-denticulate, rufo-tomentose beneath; bracts setaceous; flowers 2.5–3 cm. wide, otherwise similar to those of *P. auriculata*; ovary sericeo-villous; fruit broadly ovoid, about 3.5 cm. long, 2.5–3 cm. in diameter; seeds broadly obcordate, transversely grooved.

San Martín: Tarapoto, Spruce 4901, type. Juanjuí, Alto Río Huallaga, 400–800 meters, Klug 4159, 4299.

Passiflora foetida L. Sp. Pl. 959. 1753.

Stipules semi-annular about the stem, deeply cleft into filiform, gland-tipped segments; petioles glandless, though often with gland-tipped hairs; blades prevailingly 3-lobed; bracts involucrate, 2–4-

pinnatifid or -pinnatisect, the segments filiform, gland-tipped; flowers 2–5 cm. wide, white or pink (in Peruvian plants), the corona filaments white or banded with purple and white, in several series, those of the 2 outer series filiform, about 1 cm. long, the inner ones capillary, 1–2 mm. long; operculum minutely denticulate; fruit globose; seeds ovate-cuneiform, obscurely tridentate, coarsely reticulate at the center of each face.

An herbaceous, ill-scented vine, highly variable in the degree and the nature of the indument, the shape of the leaves, the laciniation of the bracts, and the size and color of the flowers. The species is widely distributed in tropical America and has been introduced into many parts of the Old World. Several varieties may be recognized, of which four, including typical *P. foetida*, have been reported from Peru. These may be keyed as follows:

Ovary pubescent; fruit sparingly to densely pubescent.

Stem, petioles, and peduncles hirsute with spreading, rather stiff, yellowish or brownish hairs averaging more than 1.5 mm. long. *P. foetida* (typical).

Stem, petioles, and peduncles softly pilosulous, often viscous, the hairs averaging less than 1.5 mm. long. var. *gossypifolia*.

Ovary glabrous.

Bracts small, bipinnatisect or tripinnatisect, the segments straight, or at least not closely interwoven. var. *hirsuta*.

Bracts very large, tripinnatisect or quadripinnatisect, the segments closely interwoven. var. *hispida*.

The typical form is known in Peru only from Juan Guerra, San Martín, 720 meters (*Williams 6843*).

Var. *gossypifolia* (Desv.) Mast.

Piura: Piura, *Spruce 6458*; *Gaudichaud*. Talara, *Haught 69*. Pariñas Valley, *Haught 209*.—Libertad: Pacasmayo, *Forbes* in 1912. —Lima: Chosica, 1,000 meters, *523*. Lima, *Cuming 1046*; *Mathews 408*.—Huánuco: María del Valle, 2,100 meters, *4954*.—Huancavelica: Mantaro Valley, below Colcabamba, 1,800–1,900 meters, *Weberbauer 6456*.—Without locality: *Dombey 737*; *Ruiz & Pavón*; *Maclean*; *Née: Wilkes Expedition*.

Var. *hirsuta* Mast. (*P. Baraquiniana* Lemaire).

San Martín: Tarapoto, 750 meters, *Williams 5413*.—Loreto: Contamana, 150 meters, *Killip & Smith 26870*. Iquitos, 100 meters, *Killip & Smith 27093*; *Klug 959, 1483*. Yurimaguas, 135–200

meters, *Killip & Smith 27828*; *Williams 5069, 7847*; *Poeppig 2173*. Lower Río Huallaga, *Williams 3962, 3977, 5112*. Río Ucayali, *Tessmann 3091, 5464*.

This variety is confined to the Amazon Basin of Peru and Brazil.

Var. *hispida* (DC.) Killip.

Túmbez: Hacienda La Choza, *Weberbauer 7690*.

Passiflora foetida is known in Peru as "bedoca" and "purupuru."

Passiflora frutescens Ruiz & Pavón ex Killip, Field Mus. Bot. 19: 527. 1938.

Erect shrub or tree, the branchlets finely puberulous; leaves ovate, oblong-ovate, or oblong-obovate, 20–25 cm. long, 12–14 cm. wide, obtuse and emarginate at the apex, cordulate, entire, penninerved, glabrous above, glaucescent and puberulent beneath; peduncles once-furcate; calyx tube funnel-shaped, about 1 cm. long; sepals and petals linear-oblong, 3–3.5 cm. long, white, densely red-spotted; outer corona filaments subdolabriform, about 1.5 cm. long, bearing just above the middle a knoblike projection.

Huánuco: Chinchao, *Ruiz & Pavón* (No. 247, Fl. Peruv. Chil. ined.), type.

Passiflora glaberrima (Juss.) Poir. in Lam. Encycl. Suppl. 2: 844. 1812. *Tacsonia glaberrima* Juss. Ann. Mus. Hist. Nat. Paris 6: 394. 1805.

Plant glabrous throughout; stipules semi-ovate, about 1 cm. long, callous-serrate; petioles conspicuously 2–4-glandular at the apex; blades coriaceous, 3–5 cm. long, 4.5–7 cm. wide, 3-lobed four-fifths their length, the lobes ovate, acute, sharply dentate, the basal ones horizontally divaricate or slightly reflexed; peduncles about 1.5 cm. long, slender; bracts about 1.5 cm. long, connate below the middle; flowers violet; calyx tube cylindric, 3.3 cm. long; sepals and petals oblong, 1–1.5 cm. long; corona reduced to a low, etuberculate ring; ovary ellipsoidal.

Piura: Páramo de Guamani, *Humboldt & Bonpland*, type.

This is the earliest described species of a small group of *tacsonias* with blue, violet, or magenta flowers, and with conspicuous petiolar glands. The group is widespread in Colombia and Ecuador.

Passiflora gracilens (Gray) Harms in Engl. & Prantl, Pflanzenfam. 3. 6a: 91. 1893. *Tacsonia gracilens* Gray, U. S. Expl. Exped. 639. 1854. *T. boliviana* Rusby, Mem. Torrey Club 3, pt. 3: 37. 1893. *Passiflora boliviana* Harms, Repert. Sp. Nov. 19: 28. 1923.

Plant essentially glabrous throughout; stipules setaceous; petioles very slender, glandless or with 2 small glands at the apex; blades 1–4 cm. long, 2–5 cm. wide, minutely serrulate or subentire, 3-lobed nearly to the base, the lobes narrowly ovate-oblong, the basal ones divaricate; bracts ovate, 5–8 mm. long, minutely serrulate or entire, free to the base, often early deciduous; calyx tube narrowly cylindric, 1.5–2 cm. long, 3–5 mm. in diameter (small for *tacsonias*), green at base, pink above without, bluish green within; sepals and petals oblong-lanceolate, 8–20 mm. long, bright pink; corona reduced to a shallowly sinuate, purplish ring; fruit ovoid, 2–3.5 cm. long; seeds cuneate, reticulate.

Huánuco: Huariaca, *Mathews 915*, type.—Junín: Ingahuasi, Mantaro Canyon, 3,150 meters, *Killip & Smith 22177*.—Huancaavelica: Iscuchaco, Mantaro Valley, *Weberbauer 5679*; *Raimondi 11585*.—Cuzco: *Herrera 487*. Paucartambo, 3,300–3,500 meters, *Balls 6682*; *Pennell 14170*. Colquipata, 3,300 meters, *Pennell 13791*, Hacienda Ccapana, 3,450 meters, *Herrera 1061*. Hacienda Fanccac, 2,760 meters, *Herrera 2108*. Oropieza Valley, 3,400 meters, *Herrera 2599*. Hacienda Cutija, 2,500 meters, *Bues (Herrera 2126)*. Huasao, *Herrera 3101*. Ollantaitambo, 2,800 meters, *Herrera 3342*. Urubamba Valley, *Herrera 1660, 2243*. Calca, *Vargas 154*. Also in the mountains of Bolivia. “Jukucha-jampajhuai,” “pichincho-jampajhuai” (Inca).

Passiflora heterohelix Killip, Field Mus. Bot. 19: 563. *f. 2a*. 1938.

Plant glabrous throughout; tendrils slender, of 2 forms, one axillary on the main stem, the other on one of each pair of peduncles; stipules setaceous; petioles biglandular just below the apex; blades oblong or oblong-lanceolate, 4–11 cm. long, 1.5–5 cm. wide, cuspidate-acuminate, entire, penninerved, coriaceous; peduncles 1-flowered, in pairs, one simple, ecirrhose, the other bifid, with one branch floriferous and the other a tendril; bracts narrowly ovate, 2–3 cm. long, free to the base; calyx tube barely 1 mm. long; sepals elliptic-ovate, about 1.5 cm. long; petals slightly shorter than the sepals; corona consisting of a few linear filaments 2–3 mm. long, apparently in a single series; ovary narrowly ellipsoidal.

Loreto: Tarapoto, 750 meters, *Williams 5902*, type. This may represent an undescribed genus; at least, it has no close relative in *Passiflora*. Final decision must await the collecting of better developed flowers.

Passiflora lanceolata (Mast.) Harms, Bot. Jahrb. 18: Beibl. 46: 11. 1894. *Tacsonia lanceolata* Mast. in Mart. Fl. Bras. 13, pt. 1: 536. 1872. *Passiflora acutissima* Killip, Journ. Wash. Acad. Sci. 17: 428. 1927.

Stem pilosulous; stipules lanceolate, 1–1.5 cm. long, deeply pinnatisect; petioles minutely biglandular at the apex; blades lanceolate, 4–8 cm. long, 1–1.5 cm. wide, attenuate-acuminate, subrevolute, coriaceous, glabrous; peduncles about 5 cm. long; bracts lanceolate, 1.5–2 cm. long, free to the base, lacinate; calyx tube cylindric, 7–8 cm. long, glabrous; sepals oblong, 3–3.5 cm. long, dorsally aristate; petals similar and subequal to the sepals; corona apparently tuberculiform; ovary glabrous.

Peru: Without locality, *Mathews 1252*, type. The nearest relatives of this are Colombian or Venezuelan species.

Passiflora laurifolia L. Sp. Pl. 956. 1753.

Plant glabrous except the ovary and bracts; stipules narrowly linear; petioles biglandular just below the apex; blades oblong or ovate-oblong, 6–12 cm. long, 3.5–8 cm. wide, rounded to subacute, entire, thick-coriaceous; bracts ovate-oblong, 2.5–4 cm. long, glandular-serrate toward the apex, puberulent; flowers 5–7 cm. wide; calyx tube cylindric-campanulate, up to 1 cm. long; sepals and petals oblong, red or purplish red; corona filaments banded with red, blue, violet, or purple, and white, in 6 series, the outermost about 2 cm. long, the second series, 3–4 cm. long, those of the succeeding series much shorter; operculum minutely denticulate; ovary sericeo-tomentose; fruit ovoid, 5–8 cm. long, edible; seeds finely reticulate.

Loreto: Tarapoto, 360 meters, *Ule 6337, 6545*.—Huánuco: Chicoplaya, *Ruiz & Pavón*. Common in the West Indies and the Guianas; rare in Venezuela and northern Brazil. "Granadilla."

Passiflora leptoclada Harms, Notizbl. Bot. Gart. Berlin 9: 979. 1926.

Plant glabrous throughout except the ovary; stipules linear-setaceous; petioles glandless; blades membranous, transversely elliptic or transversely oblong in general outline, truncate or shallowly 3-lobed at the apex, 1.5–4 cm. along the midnerve, 2.5–4 cm. along the lateral nerves, 4–7 cm. wide, the lobes obtuse or rounded; peduncles in pairs; bracts subulate; flowers up to 3 cm. wide, apparently greenish white; sepals narrowly oblong; petals similar to the sepals but shorter; corona 2-ranked, the outer filaments filiform, subequal to the sepals, the inner linear, 3–4 mm. long, broadly

capitate and emarginate; operculum closely plicate; ovary ovoid, densely cano-tomentulous; fruit about 1.5 cm. in diameter; seeds transversely sulcate.—Close to the widely distributed *P. misera*, but having a dense indument on the ovary. F.M. Neg. 16541.

Loreto: San Isidro, *Tessmann 4969*, type. Soledad, Río Itaya, 110 meters, *Killip & Smith 29775*. Mishuyacu, 100 meters, *Killip & Smith 29989*. La Victoria, *Williams 2737*. Puerto Arturo, *Williams 5252*. "Mashu sisa."

Passiflora ligularis Juss. Ann. Mus. Hist. Nat. Paris 6: 113. pl. 40. 1805.

Plant glabrous throughout; stipules ovate-lanceolate or oblong-lanceolate, up to 2.5 cm. long; petioles up to 10 cm. long, bearing 4–6 scattered, liguliform or filiform glands 3–10 mm. long; blades broadly ovate, 8–15 cm. long, 6–13 cm. wide, abruptly acuminate, deeply cordate, entire; bracts ovate-lanceolate, connate toward the base; flowers 6–9 cm. wide; sepals ovate-oblong, white within; petals oblong, white or pinkish white; corona 5–7-ranked, the 2 outer rows of filaments equaling the petals, radiate, blue at the apex, banded with white and reddish purple; fruit ovoid, 6–8 cm. long, 4–5 cm. in diameter, the pericarp parchment-like, the pulp white, edible; seeds narrowly obcordate, reticulate.

Lima: Lima, cultivated, *Killip & Smith 21529*; *Rose 18776*.—Huánuco: Huánuco, *Ruiz & Pavón*. Cuchero, *Poeppig 1695*.—Junín: Huacapistana, 1,800 meters, *Killip & Smith 24330*. Tarma, cultivated, *Killip & Smith 21947*.—Ayacucho: Aina, 800 meters, *Killip & Smith 22681*.—Cuzco: Torontoy, Urubamba Valley, 2,400 meters, *Cook & Gilbert 814*.—Department uncertain: Carabaya, *Weddell 4777*.—Without locality: *Dombey 739*, type; *Pavón*. The common "granadilla" of western South America, extending to central Mexico. Its pulp is used for ices and cooling drinks.

Passiflora Lobbii Mast. in Mart. Fl. Bras. 13, pt. 1: 553. 1872. *P. obtusiloba* var. *glandulifera* Harms, Repert. Sp. Nov. 19: 25. 1923.

Stem finely pilosulous or glabrous; stipules linear-setaceous; petioles biglandular near the base, the glands minute, sessile; blades 2–3 cm. long, 4.5–8 cm. wide, 3-lobed one-third to one-half their length (lobes lance-ovate, obtuse, subequal), shallowly cordate, entire, coriaceous, glabrescent; bracts setaceous; flowers 1.5–2 cm. wide; sepals oblong-lanceolate, purplish without, grass-green within; petals linear-oblong, grass-green; corona 3-ranked, the outermost filaments filiform, purple and light green, the others pink or purple,

capitellate, the tip green; ovary glabrous; fruit globose, about 1.5 cm. in diameter; seeds closely reticulate.

Ancash: Between Samanco and Caraz, *Weberbauer 3165*, type of *P. obtusiloba* var. *glandulifera*.—Huánuco: Ambo, 2,400 meters, *2415*.—Ayacucho: Pampalca, 3,200 meters, *Killip & Smith 23241*. Huanta, 2,800 meters, *Killip & Smith 23322*.—Department uncertain: Caururu, *Savatier 1436*.—Without locality: *Lobb*, type; *Gay*; *MacLean*; *Mathews*. The type bears the inscription "Lobb, Columbia." It is certain that many Lobb specimens so labeled actually came from Peru, and presumably this one did.

Passiflora loretensis Killip, Journ. Wash. Acad. Sci. 21: 349. 1931.

Plant essentially glabrous; stipules semi-oblong, 1.3–1.8 cm. long; petioles up to 2 cm. long, bearing 2 pairs of subulate glands, one near the apex, the other near the middle; blades lanceolate, 10–12 cm. long, 5.5–6 cm. wide, acuminate, cordulate and subpeltate at the base, entire, coriaceous; bracts cordate-ovate, 2–2.5 cm. long; flowers about 5 cm. wide, pink(?); calyx tube broadly campanulate, the sepals and petals oblong, the sepals awned; corona filaments in 5 series, filiform, the 2 outer radiate, about 1.5 cm. long, pale pink; operculum fimbriate to the middle; fruit globose, about 5 cm. in diameter; seeds coarsely reticulate.

Loreto: La Victoria, Amazon River, *Williams 3086*, type.

Passiflora macrochlamys Harms, Bot. Jahrb. 42: 130. 1908.

Plant glabrous nearly throughout; petioles 5-glandular; blades coriaceous or subcoriaceous, denticulate-serrate, 5–6 cm. long, 6–9 cm. wide, 3-lobed more than half their length, the middle lobe broadly ovate, 3–3.5 cm. wide at the base, abruptly acuminate, the lateral lobes widely divaricate; peduncles 3–5.5 cm. long; bracts connate two-thirds their length, about 5 cm. long; calyx tube cylindrical, 6–6.5 cm. long, the sepals and petals oblong; corona minutely tuberculate.—F.M. Neg. 16544.

Huánuco: Monzón, 2,000–2,500 meters, *Weberbauer 3541*, type.—Without locality: *Ruiz & Pavón*.

Passiflora manicata (Juss.) Pers. Syn. Pl. 2: 221. 1806. *Tacsonia manicata* Juss. Ann. Mus. Hist. Nat. Paris 6: 393. pl. 59, f. 2. 1805.

Stem angulate; stipules semi-ovate, coarsely dentate; petioles 4–10-glandular; blades 4–8 cm. long, 5–9 cm. wide, rarely larger,

3-lobed to the middle, callous-serrulate or serrate, tomentose beneath, the lobes ovate or ovate-oblong; peduncles up to 8 cm. long; bracts free or united toward the base, ovate, 2–3 cm. long; calyx tube urceolate-campanulate, 1.5–2 cm. long, green without; sepals oblong-lanceolate, green, pink-tinged without, scarlet within; petals scarlet; corona in 3 or 4 series, the outer 2 or 3 filamentose, the filaments 2–4 mm. long, blue; ovary obovoid, glabrous; fruit ovoid or subspherical, 3.5–5 cm. long, glabrous and lustrous; seeds finely reticulate.

Cajamarca: Hacienda La Tajona, *Weberbauer 4051*. Western Venezuela and Colombia to Peru, sometimes cultivated.

Passiflora Matthewsii (Mast.) Killip, Journ. Wash. Acad. Sci. 17: 428. 1927. *Tacsonia Matthewsii* Mast. in Mart. Fl. Bras. 13, pt. 1: 539. 1872.

Stem tomentellous; stipules narrowly linear, 2.5–3 mm. long; petioles 6-glandular; blades 5–6 cm. along the midnerve, 3.5–4 cm. along the lateral nerves, 4–6 cm. between the apices of the lateral lobes, coriaceous, glabrous above, densely grayish-tomentose beneath, 3-lobed about to the middle, the lobes ovate-lanceolate or oblong-lanceolate, acute, serrulate; peduncles 1–2 cm. long, stout; bracts about 2.5 cm. long, connate to the middle; calyx tube cylindric, about 4 cm. long, tomentellous without; sepals and petals oblong, 2–2.5 cm. long, rose; corona minutely tuberculate.

Amazonas: Chachapoyas, *Mathews*, type.—Libertad: Near Cerro Uruchalda, 3,350 meters, *West 8175* (doubtfully referred here).

Passiflora menispermifolia HBK. Nov. Gen. & Sp. 2: 137. 1817. *P. villosa* Dombey ex Tr. & Planch. Ann. Sci. Nat. sér. 5. 17: 154. 1873, as synonym.

Plant densely hispid-hirsute with light brown hairs nearly throughout; stipules subreniform, glandular-denticulate or subentire; petioles 2–4-glandular; blades broadly lanceolate or suborbicular in general outline, 10–16 cm. long, 8–13 cm. wide, angulately 3-lobed, cordate, remotely glandular-denticulate to dentate, the lobes acute or rounded, the middle one broadly ovate-deltoid; bracts narrowly lanceolate or elliptic-lanceolate, 1–2 cm. long, acuminate, glandular-denticulate; flowers up to 6 cm. wide, violet; sepals lance-oblong; petals linear-oblong; corona filaments in several series, the outermost filiform, about 2 cm. long, the others very dense, shorter; operculum filamentose in the upper half; ovary ovoid, glabrous; seeds coarsely reticulate.

Cajamarca: Between Tomependa and Jaén de Bracamoras, *Humboldt & Bonpland*, type.—Loreto: Yurimaguas, 135 meters, *Killip & Smith 28705*. Canchahuaya, Río Ucayali, *Huber 1408*. Mishuyacu, 100 meters, *Klug 1064*. Balsapuerto, 220 meters, *Klug 3091*.—Huánuco: Chinchao, *Ruiz & Pavón*.—Ayacucho: Aina, 900 meters, *Killip & Smith 22795*.—Cuzco: Urubamba Valley, 1,800 meters, *Cook & Gilbert 1085*.—Without locality: *Dombey*, type of *P. villosa* *Dombey*; *Mathews 2074*. Nicaragua to Peru. Also in upper Amazonian Brazil.

Passiflora mesadenia Killip, Journ. Wash. Acad. Sci. 17: 427. 1927.

Stem subquadrangular, pilosulous; stipules subreniform, glandular-dentate; petioles conspicuously biglandular at the middle, sometimes with a third gland above or below this pair; blades 4–6 cm. long, 6–8 cm. wide, 3-lobed to the middle, subauricular or cordulate at the base, shallowly and irregularly dentate-serrate, glabrous above, pubescent beneath; peduncles 4–5.5 cm. long, stout; bracts 4–5 cm. long, united about half their length, glabrous; calyx tube cylindric, 7–8 cm. long, pink, glabrous; sepals oblong, pink without, white within; petals oblong-spatulate, white; corona minutely tuberculate; ovary glabrous, pruinose.

Huánuco: Vilcabamba, Río Chinchao, 1,800 meters, 4960, type. Pampayacu, *Kanehira 265a*; *Sawada P-1*.

Passiflora mixta L. f. Suppl. 408. 1781. *P. longiflora* Lam. Encycl. 3: 39. 1789. *P. Tacso* Cav. Diss. 10: 451. pl. 277. 1790. *Tacsonia mixta* Juss. Ann. Mus. Hist. Nat. Paris 6: 394. 1805. *T. mixta* var. *longiflora* DC. Prodr. 3: 335. 1828.

Plant glabrous throughout or more usually pubescent on the under side of the leaves, the involucre, the calyx tube, and the ovary; stem angulate; stipules subreniform, callous-dentate or -serrate; petioles minutely 4–8-glandular; blades 5–10 cm. long, 6–17 cm. wide, 3-lobed to or to slightly below the middle, the lobes ovate-oblong, acute or abruptly acuminate, coarsely or finely callous-serrate; peduncles stout, up to 6 cm. long; bracts united one-half to three-quarters their length into a tubulate-campanulate or nearly cylindric involucre 2–5 cm. long; calyx tube cylindric, 8–11 cm. long, about 1 cm. in diameter, yellow-green to orange-red without, cream-color within; sepals oblong, 3–4 cm. long; petals pink to orange-red; corona short-tuberculate, deep lavender or purple; fruit ovoid, 4.5–6 cm. long, 2–2.5 cm. in diameter; seeds reticulate.

Huánuco: Mito, 2,700 meters, 1615. Muña, 2,400 meters, 4315. Pillao, *Ruiz & Pavón*.—Cuzco: Lucumayo Valley, *Cook & Gilbert 1348*. Panticalla Pass, 3,600 meters, *Cook & Gilbert 1824*. Urubamba Valley, 2,400 meters, *Cook & Gilbert 828*. Paucartambo, 3,000 meters, *Herrera 2999*.—Ayacucho; Tambo, *Weberbauer 5621*.—Puno: Sandía, *Weberbauer 872*.—Without locality: *Jussieu*, type of *P. longiflora* and of *P. Tacso*; *Dombey 746*; *Née*; *Haenke 1957, 2040*. Venezuela and Colombia to Peru and Bolivia, between 2,500 and 3,600 meters. Often cultivated. Fruit edible. "Tacso," "tumbo," "monteturubo"; "xampajrrai" (Quechua).

Passiflora mollissima (HBK.) Bailey, *Rhodora* 18: 156. 1916. *P. tomentosa* Lam. *Encycl.* 3: 40. 1789(?). *Tacsonia mollissima* HBK. *Nov. Gen. & Sp.* 2: 144. 1817. *Passiflora tomentosa* var. *mollissima* Tr. & Planch. *Ann. Sci. Nat. sér.* 5. 17: 131. 1873.

Stem terete, densely and softly yellow-villous; stipules subreniform, 7–9 mm. long; petioles bearing 8–12 sessile glands; blades 5–10 cm. long, 6–12 cm. wide, 3-lobed about two-thirds their length (lobes ovate or ovate-oblong, acute, the sinuses acute), sharply serrate-dentate, softly pubescent above, grayish- or yellowish-tomentose beneath; peduncles 2–6 cm. long; bracts 2.5–3 cm. long, united one-third to one-half their length; calyx tube 6.5–8 cm. long, olive-green, often red-tinged without, white within, glabrous; sepals oblong, 2.5–3.5 cm. long; petals pink; corona reduced to a purple band with a few tubercles or crenulations; ovary sericeo-tomentose; fruit oblong-ovoid, 6–7 cm. long, 3–3.5 cm. in diameter, yellowish, softly pubescent; seeds reticulate.—F.M. Neg. 16548.

Huánuco: Huánuco, 3,200 meters, 2074. Pampayacu, *Kanehira 265*.—Junín: Tarma, 3,000–3,200 meters, *Killip & Smith 21868, 21942*. Ocopa, 3,300 meters, *Killip & Smith 22011*. Carpapata, 3,200 meters, *Killip & Smith 24481*. Huancayo, *Valleriasta*.—Ayacucho: Ccarrapa, 1,200 meters, *Killip & Smith 23236*.—Cuzco: Ollantaitambo, 3,000 meters, *Cook & Gilbert 270*. Guispicanchi, *Herrera 696*. Paucarcocoto, 2,700 meters, *Bues (Herrera 2127, 2128)*. Cuzco, *Herrera 2943*; *Popenoe 1355*.—Arequipa: Arequipa, cultivated, *Rose 18979*. Venezuela and Colombia to Peru and Bolivia, usually found between 2,000 and 3,000 meters; often cultivated. Fruit edible. "Tacso," "tintin," "tumbo," "tumbo del monte," "trompos."

Passiflora morifolia Mast. in *Mart. Fl. Bras.* 13, pt. 1: 555. 1872.

Stem sparingly hispidulous above; stipules semi-ovate, about 6 mm. long and 3 mm. wide, long-acuminate; petioles biglandular near the apex, the glands thick-stipitate; blades 4–11 cm. long, 5–15 cm.

wide, 3-lobed to below the middle (lobes acute, the middle one ovate or ovate-lanceolate, usually narrowed at the base, the lateral ones divergent), deeply cordate, repandly dentate or denticulate, or subentire, membranous, minutely hispidulous above, minutely pilosulous beneath; peduncles solitary or in pairs, widely divaricate; bracts setaceous; flowers 2-3 cm. wide; sepals linear-oblong, white, red-mottled within; petals linear-lanceolate; corona filaments in a single series, filiform, 5-6 mm. long, white, banded with blue or violet; operculum plicate; ovary densely pilose; fruit globose, 2 cm. in diameter; seeds very slightly compressed, coarsely reticulate.

Cuzco: Urubamba Valley, near Echarate, *Weberbauer 7949*.—Without locality: *Gay 941*; *Pavón*. Common in Argentina; rare in Bolivia, Guatemala, and Mexico.

Passiflora nephrodes Mast. Bull. Torrey Club 17: 282. 1890.

Plant densely hirsute throughout; stipules subreniform, 1.5-2 cm. long, coarsely serrate-dentate; petioles 2- or 3-glandular near the middle; blades 6-18 cm. long, 5-9 cm. wide, 3-lobed, subcordate, denticulate, the middle lobe ovate or ovate-lanceolate, much longer than the deltoid-ovate lateral lobes; bracts ovate-lanceolate, 1-2 cm. long, serrate; flowers 6-8 cm. wide; sepals oblong, dorsally awned; petals linear-oblong; corona filaments filiform, in several series, the outermost radiate, 2.5-3 cm. long, purple in the lower half, white in the upper, the succeeding filaments erect, 3-6 mm. long; operculum filamentose in the upper half; fruit ovoid, about 4 cm. long; seeds reticulate.

Junín: Yapas, Pichis Trail, 1,600 meters, *Killip & Smith 25447*.—Cuzco: Lares Valley, *Weberbauer 7920*. Also in western Bolivia and Amazonian Brazil.

Passiflora nitida HBK. Nov. Gen. & Sp. 2: 130. 1817.

Plant glabrous throughout; stipules linear-subulate; petioles biglandular at the apex; blades ovate-oblong, ovate-elliptic, or broadly ovate, 9-17 cm. long, 6-10 cm. wide, acute or acuminate, subentire, undulate-denticulate, or serrulate, usually becoming blackish in drying; bracts oblong-ovate, about 3.5 cm. wide; flowers 9-11 cm. wide; calyx tube campanulate; sepals oblong-lanceolate, white within; petals narrowly oblong, white; corona filaments in several series, the 2 outer subequal, 2-3.5 cm. long, white and pink-spotted at the base, banded with blue and white at the middle, white at the apex, the inner filaments shorter; operculum fimbriate; fruit globose, 3-4 cm. in diameter; seeds reticulate.

Loreto: Iquitos, 100 meters, *Killip & Smith 26909, 27158; Klug 256, 828; Williams 1383, 1517; Tessmann 3703; Mexia 6488*. Río Nanay, *Williams 1130*. La Victoria, *Williams 2800*. Río Rumiayacu, *Raimondi 614*. Gamitanacocha, Río Mazán, 100–125 meters, *J. M. Schunke 51*. Colombia to the Guianas, south to Peru and central Brazil. “Granadilla,” “puru puru.”

Passiflora obtusiloba Mast. in Mart. Fl. Bras. 13, pt. 1: 554. 1872. *P. Niorbo* Planch. Ann. Sci. Nat. sér. 5. 17: 156, footnote. 1873.

Stem finely pilosulous or glabrescent below, densely pubescent toward the end; stipules setaceous; petioles glandless; blades coriaceous, glabrous or nearly so, 1–2.5 cm. long, 2–5 cm. wide, 3-lobed about a third their length, the lobes subequal, rounded; peduncles in pairs; bracts setaceous; flowers 1.5–2 cm. wide; sepals narrowly oblong, yellowish green; petals linear-spatulate, light green; corona 2-ranked, the outer filaments terete, about 4 mm. long, yellow-green, the inner filiform, 1.5–2 mm. long; operculum closely plicate; ovary glabrous.

Junín: Tarma, 2,800–3,100 meters, *Weberbauer 1735; Killip & Smith 21943*. Palca, *Stevens 40*. Huasahuasi, *Dombey 735* (type of *P. Niorbo*).—Ayacucho: Quinua, *Weberbauer 5545*.—Without locality: *Pavón* (type); *Gay*. “Niorbo.”

Passiflora parvifolia (DC.) Harms in Weberbauer, Pflanzenw. Per. And. 253. 1911. *Tacsonia parvifolia* DC. Prodr. 3: 335. 1828. *Passiflora brachychlamys* Harms, Notizbl. Bot. Gart. Berlin 10: 815. 1929.

Plant essentially glabrous throughout; stipules semi-ovate, 6–10 cm. long, coarsely and remotely serrate; petioles minutely 3–7-glandular; blades small for the subgenus *Tacsonia*, 2–3 cm. long, 3–6 cm. between the apices of the lateral lobes, 3-lobed to below the middle, the lobes ovate to ovate-lanceolate, 7–15 mm. wide, sharply serrulate; peduncles 3–6 cm. long, very slender; bracts 2.5–3 cm. long, connate at least to the middle, the tube subconical, the free portions ovate-lanceolate, acute; calyx tube cylindric, 6–9 cm. long, rose-green or rose-red; sepals and petals oblong, 2–2.5 cm. long, bright red; corona minutely tuberculate; ovary narrowly ellipsoidal.—F.M. Neg. 24153.

Libertad: Eastern base of Cerro Huaylillas, 3,900 meters, *West 8126*.—Huánuco: Huánuco, 3,500–4,000 meters, *2198; Weberbauer 3329*. Tambo de Vaca, 4,300 meters, *4405*. Mito, *1823*. Muña, *Pearce* in 1863. Yanano, 1,800 meters, *5743*.—Ayacucho: Tambo,

Pearce 309.—Cuzco: Province of Paucartambo, 3,350 meters, *Herrera 484*, type of *P. brachyichlamys*. Hacienda Ccapana, *Herrera 588*.—Without locality: *Ruiz & Pavón 533*, type; *Lobb* (erroneously cited in *Mart. Fl. Bras.* as from Colombia). Endemic, *Pearce's 35*, from Ecuador, also cited as this, being *P. cumbalensis*. "Samppajhuai" (Cuzco), "jampajhuai."

Passiflora peduncularis Cav. *Icon.* 5: 15. *pl. 426*. 1799. *Tacsonia peduncularis* Juss. *Ann. Mus. Hist. Nat. Paris* 6: 395. 1805. *T. peduncularis* var. *Dombeyana* DC. *Prodr.* 3: 334. 1828. *T. Dombeyana* M. Roemer, *Fam. Nat. Syn.* 2: 197. 1846.

Stem quadrangular, tomentulous; stipules semi-ovate, coarsely and irregularly serrate; petioles 3–4-glandular; blades deeply cordate, serrulate, subcoriaceous, glabrous above, tomentulous on the nerves and veins beneath, 3-lobed to below the middle, the lobes ovate, subequal, 3–6 cm. long, the lateral widely divergent; peduncles 10–15 cm. long, stout; bracts 2–3 cm. long, united to above the middle; flowers white; calyx tube short-cylindric, 1.5–2 cm. long; sepals and petals oblong, 3–4 cm. long; corona in several series, the outermost consisting of very short, liguliform filaments, the others mostly of minute, filiform threads; ovary yellowish-tomentose; fruit spherical, 3–4 cm. in diameter.

Ancash: Ocos, Cajatambo, *Weberbauer 2675*.—Lima: Río Chillon, above Obrajillo, 3,000 meters, *Pennell 14393*.—Moquehua: Carumas, 3,300 meters, *Weberbauer 7345*.—Without locality: *Née*, type; *Pavón*; *Dombey*, type of *T. peduncularis* var. *Dombeyana*; *Wilkes Expedition*; *Mathews 480*; *Haenke 2118*. Probably restricted to the higher mountains of western Peru, reports of its occurrence in Chile and Ecuador doubtless being erroneous.

Passiflora pinnatistipula Cav. *Icon.* 5: 16. *pl. 428*. 1799. *Tacsonia pinnatistipula* Juss. *Ann. Mus. Hist. Nat. Paris* 6: 393. 1805. *T. micradena* DC. *Prodr.* 3: 334. 1828.

A rather stout vine with very showy flowers, the younger portions of the stem white-tomentose or white-lanate; stipules purplish, 5–7 mm. long, 4–5 mm. wide, pinnatisect or palmately cleft into filiform divisions; petioles minutely 4–6-glandular; blades coriaceous, rugose and glabrous above, densely white- or grayish-lanate beneath, 5–10 cm. long, 6–13 cm. wide, 3-lobed about four-fifths their length, the lobes lanceolate or oblong-lanceolate, acuminate, sharply serrate; peduncles up to 7 cm. long, the bracts free, ovate, 1–1.5 cm. long, remotely sharp-serrate, usually reddish purple without; calyx tube

cylindric, 4.5–5 cm. long, bright pink and usually cano-tomentose without, white within, blue-tinged toward the throat; sepals oblong, 3–4 cm. long, greenish or pinkish without, white within; petals white, faintly blue-tinged; corona 2-ranked, the outer rank filamentose, 1.5–2 cm. long, blue and white, the inner a ring of minute, deep purple tubercles; ovary white-tomentose; fruit subglobose, about 5 cm. in diameter; seeds reticulate.

Junín: Tarma, 3,100 meters, *Ruiz & Pavón*, type of *Tacsonia micradena*; *Killip & Smith 21938*. Between Tarma and Palca, *Weberbauer 1733*. Ocopa, 3,300 meters, *Killip & Smith 22012*. Huancayo, 3,600 meters, *Killip & Smith 22034*; *Ledig 5*.—Cuzco: Sacsaihuamán, *Herrera 295*. Paucartambo, 3,350 meters, *Herrera 486*. Guispicanchi, 3,400 meters, *Herrera 2586, 2605*. Ollantaitambo, 3,000 meters, *Cook & Gilbert 475*. Tinta, *Cook & Gilbert 228*. Probably a native of Peru or Chile but cultivated throughout the Andes for its edible fruit or as an ornamental. “Tin-tin,” “puru-puru,” “tacso.”

Passiflora Poeppigii Mast. Trans. Linn. Soc. 27: 630. 1871; in Mart. Fl. Bras. 13, pt. 1: 546. 1872. *P. lunata* Juss. sensu Poepp. & Endl. Nov. Gen. & Sp. 2: 58. pl. 178. 1838 (not *P. lunata* Juss.).

Plant glabrous throughout; stipules subulate-falcate; petioles slender, glandless; blades transversely oblong in general outline, 1.5–5 cm. along the midnerve, 2–6.5 cm. along the lateral nerves, 3.5–10 cm. wide, repand-truncate at the upper margin, membranous; peduncles 4–6 cm. long, very slender; bracts setaceous; flowers 1.5–2 cm. wide, white; sepals broadly ovate; petals none(?); corona 2-ranked, the outer filaments filiform, 7–8 mm. long, the inner narrowly linear, much shorter; operculum plicate; ovary ovoid.

Loreto: Yurimaguas, *Poeppig D.2170*, type.

If this species is truly apetalous, as described by the authors, it is the only South American representative of its subgenus without petals. Authors have frequently overlooked very small petals and this may be the case here. It is impossible to decide the point because of the condition of the flowers of the type specimen.

Passiflora punctata L. Sp. Pl. 957. 1753.

Plant glabrous throughout; stipules linear-falcate; petioles glandless; blades transversely oblong in general outline, 2–5 cm. along the midnerve, 3–7 cm. along lateral nerves, 6–12 cm. wide, truncate and very shallowly 3-lobed at the apex or rather conspicuously bilobed, thin-membranous, glaucescent beneath; peduncles 5–8 cm.

long, very slender; bracts setaceous; flowers 2.5–4 cm. wide; sepals oblong-lanceolate, light yellow-green; petals similar, greenish white; corona 2-ranked, the outer filaments liguliform, falcate, dilated near the middle, yellow-green at the apex, purple to magenta at the center, white at the base, the inner filaments filiform, capitellate; operculum plicate; fruit ellipsoidal; seeds transversely 6-sulcate.

Tumbez: Hacienda Chicama, 900 meters, *Weberbauer 7637*.—San Martín: Tarapoto, 750 meters, *Williams 5922*.—Libertad: Chinchín, *Née*.—Lima: Lima Botanical Garden, *Killip & Smith 21527*; *Née*. Barrana, *Wawra 527*.—Cuzco: Santa Ana Valley, *Herrera 941*.—Without locality: *Dombey 736*; *Pavón*. Probably native in Ecuador and northern Peru, this species is frequently cultivated in western South America. "Norbo."

Passiflora pyrhantha Harms, Notizbl. Bot. Gart. Berlin 9: 977. 1926.

Scandent shrub with a few tendrils, the branchlets puberulent; leaves ovate or ovate-oblong, 10–16 cm. long, 6–10 cm. wide, acuminate, remotely denticulate in the upper half, subcoriaceous, glabrous; flowers fire-red, in racemes at the end of long peduncles which occasionally terminate in a tendril; calyx tube cylindric, about 5 cm. long, appressed-puberulent; sepals and petals narrowly oblong; corona filaments in 2 series, the outer about 6 mm. long, slightly falcate-dilated, the inner subulate, very short; operculum filamentose nearly to the base; ovary ovoid, velutinous.—F.M. Neg. 16555.

Loreto: Puerto Melendez, Pongo de Manseriche, *Tessmann 4770*, type. Gamitanacocha, Río Mazán, 100–125 meters, *J. M. Schunke 358*.

Passiflora quadrangularis L. Syst. Nat. ed. 10. 2: 1248. 1759. *P. macrocarpa* Mast. Gard. Chron. 1869: 1012. 1869.

Plant glabrous throughout; stem stout, quadrangular, the angles winged; stipules ovate or ovate-lanceolate, 2–3.5 cm. long; petioles 6-glandular, the glands sessile; blades broadly ovate or ovate-oblong, 10–20 cm. long, 8–15 cm. wide, abruptly acuminate, entire, penninerved, the principal lateral nerves 10–12 to a side, approximate; bracts cordate-ovate, 3–5.5 cm. long; flowers up to 12 cm. wide; sepals ovate or ovate-oblong, white, violet, or pinkish within; petals slightly narrower than the sepals, white, deeply pink-tinged; corona 5-ranked, the 2 outer ranks subequal, the filaments up to 6 cm. long, radiate, multicolored, the other ranks of the corona much shorter, mostly purple and white; fruit oblong-ovoid, 20–30 cm. long, 12–15

cm. in diameter, terete or longitudinally 3-grooved; seeds obcordate or suborbicular, up to 1 cm. long.

San Martín: San Roque, 1,400 meters, *Williams 7250*.—Loreto: Iquitos, 100 meters, *Killip & Smith 27152*; *Klug 733*. Río Itaya, *Williams 188*.—Huánuco: Ambo, 2,600 meters, *2422*. Chinchao, *Ruiz & Pavón*. Extensively cultivated in tropical America. The pulp is eaten, and the thick rind is often made into sweetmeats or preserves. "Granadilla," "tumbo," "tambo."

Passiflora quadriflora Killip, Journ. Wash. Acad. Sci. 17: 424. 1927.

Plant glabrous throughout; stipules setaceous; petioles glandless; blades narrowly lanceolate, 5–8 cm. long, 1.5–2 cm. wide, unlobed, entire, acute, coriaceous or subcoriaceous; peduncles in pairs, 2-flowered, the main portion and the branches nearly equal; bracts setaceous; flowers about 5 cm. wide, greenish white; sepals lanceolate; petals linear-lanceolate, about a third as long as the sepals; corona 2-ranked, the outer filaments filiform, subequal to the petals, the inner capillary, much shorter; operculum slightly plicate, finely fimbriate; fruit globose-ovoid, subtrigonus, about 2.2 cm. in diameter.

San Martín: Tarapoto, 1,200 meters, *Ule 6464*; *Williams 5514*.—Huánuco: Río Chinchao, 1,900 meters, *5189*, type.

Passiflora quadriglandulosa Rodschied, Med. & Chir. Bemerk. Esseq. 77. 1796. *Tacsonia quadriglandulosa* DC. Prodr. 3: 335. 1828.

Stem terete, glabrous or the younger parts pilosulous; stipules setaceous, soon deciduous; petioles obscurely biglandular at the base; blades polymorphic, unlobed and oblong or oblong-lanceolate, 8–15 cm. long, 3–8 cm. wide, or asymmetrically 2- or 3-lobed (lobes acuminate, the middle one longer than the lateral ones), irregularly repand-dentate, glabrous, or finely puberulent on the nerves above, finely puberulent or tomentellous beneath; bracts narrowly linear to narrowly oblong-lanceolate, 8–15 mm. long, 1–5 mm. wide, glandular-serrulate, or (in var. *involuta* (Mast.) Killip) broadly ovate, up to 5 cm. long and 3 cm. wide, doubly serrate; flowers pink, red, or scarlet; calyx tube cylindric, 1–1.5 cm. long; sepals and petals similar and subequal, 6–8 cm. long; corona 3-ranked, the 2 outer ranks filamentose to the base, the filaments bright red or scarlet, the third coronal rank tubular, filamentose in upper third only; ovary ferruginous-tomentulous; fruit ovoid, about 3.5 cm. long; seeds reticulate.

Loreto: Fox 89. Río Itaya, 110 meters, *Killip & Smith 29408; Klug 1069, 1226*. Mishuyacu, 100 meters, *Killip & Smith 29974*. Lower Río Nanay, *Williams 562*. La Victoria, *Williams 3118*. Caballo-Cocha, *Williams 2458*. Iquitos, *Williams 8052*. Rancho Indiana, Río Marañón, 110 meters, *Mexia 6405*. Gamitanacocha, Río Mazán, 100–125 meters, *J. M. Schunke 47, 52*. Chasuta, *Raimondi 581*. Peras, *Fox 119*. Río Ucayali, *Tessmann 3309*. Guianas to Peru, Bolivia, and northern Brazil. "Granadilla acida." The variety is represented in Peru by the following collections, all from Loreto: Mishuyacu, *Klug 342, 417*. Río Nanay, *Williams 780, 1104*. Iquitos, *Ducke 21230*. "Estrella," "granadilla."

Passiflora riparia Mart. ex Mast. in Mart. Fl. Bras. 13, pt. 1: 599. pl. 116. 1872.

Plant glabrous except the ovary; stipules linear, soon deciduous; petioles biglandular at the middle; blades oblong or oblanceolate, 10–15 cm. long, 4.5–8 cm. wide, abruptly acuminate, entire or minutely serrulate, subcoriaceous; peduncles 4–5 cm. long, borne on short, axillary, leafless (or with much reduced leaves) branches; bracts ovate-oblong, 3–4 cm. long, reddish; calyx tube cylindrical-campanulate, about 1 cm. long; sepals oblong, 4–5 cm. long, white, green-tinged; petals oblong-linear, white; corona in several series, the filaments of the outer series subequal, 4–5 cm. long, banded with blue or violet and white, those of the innermost series about 2 mm. long, the intervening ones an irregular mass of tubercles; operculum crenulate; ovary rufo-sericeo-tomentose; fruit ovoid or globose, 3–4 cm. long, apparently not edible; seeds reticulate at the center, striate at the margin.

San Martín: Tarapoto, *Williams 5637, 5848*. Alto Río Huallaga, *Williams 6300*. Lamas, 840 meters, *Williams 6378*. Juanjuí, 400 meters, *Klug 3897*. Chasuta, 260 meters, *Klug 4037*.—Loreto: Yurimaguas, 135 meters, *Killip & Smith 28214, 28940; Williams 7876*. Lower Río Huallaga, 135 meters, *Killip & Smith 29012*. Iquitos, 100 meters, *Williams 1392, 1440, 7996*. La Victoria, Río Amazonas, *Williams 3126*.—Junín: Puerto Bermúdez, 375 meters, *Killip & Smith 26683*; Puerto Yessup, 400 meters, *Killip & Smith 26307*. Also in Amazonian Brazil and southernmost British Guiana. "Purupuru," "chinchorcon," "granadilla."

Passiflora rosea (Karst.) Killip, Field Mus. Bot. 19: 278. 1938 (*P. pinnatistipula* × *P. mollissima*). *Poggenorffia rosea* Karst.

Linnaea 28: 438. 1856; Fl. Columb. 1: pl. 15. 1858. *Tacsonia rosea* Sodiro, Anal. Univ. Quito 18: 343. 1903.

Plant tomentose; stipules linear-lanceolate, lacinate-dentate above the middle; petioles 6-8-glandular; blades 3-lobed to slightly below the middle, sharply serrate, the lobes ovate or ovate-oblong; bracts cordate-ovate, free to the base; calyx tube 4.5-5 cm. long, enlarged near the middle; sepals and petals oblong-lanceolate, 2.5-3 cm. long, bright pink; corona filamentose, in 2 series; gynophore 3-4.5 cm. long, the filaments of the stamens arising below its middle, the anthers basifixed; ovary densely white-sericeo-tomentose; fruit ovoid, about 8 cm. long; seeds broadly obovate, closely reticulate.

Junín: Tarma, 3,100 meters, *Killip & Smith 21885*. Huancayo, *Chavez 129*—Cuzco: Paucartambo, 3,000 meters, *Herrera 2999a*. Also in Colombia and Ecuador.

This curious plant is the basis of the monotypic genus *Poggenдорffia*. There are, however, good reasons for believing it a natural hybrid between *P. pinnatistipula* and *P. mollissima*. In the vegetative parts it rather closely resembles *P. mollissima*, whereas in the length and indument of the calyx tube and the filamentose outer series of corona filaments it is suggestive of *P. pinnatistipula*. "Purupuru."

Passiflora rubra L. Sp. Pl. 956. 1753.

Stem densely grayish pubescent; stipules setaceous; petioles glandless; blades membranous, finely pubescent or rarely softly hirsute, 2-8 cm. along the midnerve, 4-11 cm. along the lateral nerves, 3-10 cm. wide, bilobed, the lobes widely divergent, or shallowly and subequally 3-lobed; peduncles solitary; bracts none; flowers up to 5 cm. wide; sepals linear-lanceolate, reddish or greenish without, white within; petals half as long as the sepals, white; corona prevailingly 1-ranked, the filaments narrowly liguliform or nearly filiform, purplish at the base, green or white above; operculum slightly plicate; ovary subglobose, densely hirsute with white or brownish hairs; fruit ovoid or obovoid, 2-2.5 cm. long, 1.5-1.8 cm. wide, rarely larger, tapering at the base, 10-angled; seeds black, transversely sulcate, the ridges smooth.

Tumbez: Hacienda Chicama, 900-1,000 meters, *Weberbauer 7653*.—San Martín: San Roque, 1,350-1,500 meters, *Williams 7088*. Tarapoto, *Ule 6546*.—Huánuco: Muña, 2,100 meters, *4162*.—Junín: La Merced, 700 meters, *Killip & Smith 23400, 23432, 25371*. Yapas, Pichis Trail, 1,500 meters, *Killip & Smith 25441*.—Ayacucho: Aina, 800 meters, *Killip & Smith 22800*.—Cuzco: Uchumayo, *Bues*

(*Herrera 2129*). Echarate, 900 meters, *Bues* in 1928.—Without locality: *Ruiz & Pavón*. “Mazo-manchachi” (Cuzco). Common in the West Indies, and from Colombia to Peru; rarer elsewhere in South America.

Passiflora serrato-digitata L. Sp. Pl. 960. 1753. *P. serrata* L. Syst. Nat. ed. 10. 2: 1248. 1759. *P. digitata* L. Sp. Pl. ed. 2. 1360. 1763. *P. serrata* var. *digitata* R. & P. ex DC. Prodr. 3: 330. 1828. *P. digitata* R. & P. ex M. Roemer, Fam. Nat. Syn. 2: 183. 1846.

Plant essentially glabrous throughout; stipules linear-subulate, about 1.5 cm. long; petioles biglandular at the apex and at the middle, the glands up to 3 mm. long; blades up to 15 cm. long and 18 cm. wide, palmately 5–7-lobed to below the middle, the lobes oblong to oblanceolate, acuminate, finely serrulate; bracts ovate-lanceolate, 3–5 cm. long, united a quarter their length, slightly pubescent; flowers 6–8 cm. wide; sepals and petals oblong, blue-tinged to pinkish blue; corona in several series, the 2 outer filamentose, radiate, banded with blue, white, and purple; fruit globose, 4–5 cm. in diameter, the pericarp brittle, the pulp edible; seeds reticulate.

San Martín: Juanjuí, 800 meters, *Klug 4278*.—Loreto: Iquitos, 100 meters, *Killip & Smith 27233, 27422; Williams 3751*. Yurimaguas, 135 meters, *Killip & Smith 27849*. Lower Río Huallaga, 155–210 meters, *Williams 5153*. Río Ucayali, *Tessmann 3373*. Pongo de Manseriche, *Tessmann 4955*.—Junín: La Merced, 700 meters, *Killip & Smith 23931, 24052*. Paucartambo Valley, 700 meters, *Killip & Smith 25422*.—Ayacucho: Aina, 900 meters, *Killip & Smith 22825*.—Cuzco: Chancamayo, Lares Valley, *Weberbauer 7939*.—Arequipa: Vito, *Ruiz & Pavón*.—Department uncertain: Hacienda Chalhupaquiuo, *Stevens 154*. “Ccoto-gguantte,” “ckoto huanthi.” West Indies, Guianas, and Amazonian Brazil to southern Bolivia and Peru.

Passiflora skiantha Huber, Bol. Mus. Goeldi 4: 591. f. 5. 1906.

Scandent shrub, glabrous throughout; leaves elliptic, up to 17 cm. long and 10 cm. wide, abruptly acute or acuminate, membranous; flowers in short, dense fascicles; calyx tube cylindrical, 3–3.5 cm. long; sepals and petals oblong, 2.5–3 cm. long; corona filaments in 4 series, the outermost spatulate, about 1.5 cm. long, the others much shorter; ovary ellipsoidal.

Loreto: Cerro de Canchahuaya, *Huber 1424*, type.

Passiflora spectabilis Killip, Journ. Wash. Acad. Sci. 20: 379. 1930.

Plant glabrous; stipules semi-ovate or semi-oblong, up to 6 cm. long; petioles 2–3-glandular, the glands sessile; blades 6–12 cm. long, 10–20 cm. wide, 3-lobed not more than to the middle, peltate near the lower margin, glaucescent, the lobes broadly triangular, obtuse or subacute; bracts ovate, 6–7 mm. long, borne 6–12 mm. from the base of the flower; flowers 5–7 cm. wide, pink or white; calyx tube campanulate; sepals oblong, short-awned; petals linear; corona filaments very slender, in 4 series, the 2 outer subequal to the petals, blue, white at the tips; operculum filamentose nearly to the base; fruit globose, 5 cm. in diameter, edible; seeds coarsely reticulate.

Loreto: Mishuyacu, 100 meters, *Killip & Smith 29884*, type; *Klug 242*. Iquitos, 100 meters, *Killip & Smith 27165, 29846*.—Junín: Eneñas, 1,600 meters, *Killip & Smith 25764*.

Passiflora spinosa (Poepp. & Endl.) Mast. Trans. Linn. Soc. 27: 630. 1871; in Mart. Fl. Bras. 13, pt. 1: 576. 1872. *Tacsonia spinosa* Poepp. & Endl. Nov. Gen. & Sp. 2: 59. pl. 181. 1838.

Woody vine, glabrous throughout except the ovary, the tendrils often reduced to stout spines; leaves oblong, 10–17 cm. long, 3–9 cm. wide, acuminate, entire, coriaceous, lustrous; flowers bright red, in slender racemes up to 25 cm. long, these sometimes bearing reduced leaves; calyx tube cylindric, 4–5 cm. long, glabrous; sepals and petals narrowly oblong; corona filaments in 2 series, yellow, the outer dolabriform, the inner filiform; operculum filamentose in the upper third; ovary narrowly oblong, puberulent.

Loreto: Yurimaguas, 135 meters, *Poeppig D. 2187*, type; *Killip & Smith 28147*. Caballo-Cocha, Río Amazonas, *Williams 2458*. Upper Río Nanay, *Williams 1134*. Also in Colombia and Amazonian Brazil.

Passiflora suberosa L. Sp. Pl. 958. 1753.

Plant glabrous to densely pubescent; stipules linear-subulate; petioles minutely biglandular above the middle, the glands normally stipitate; blades membranous or subcoriaceous, highly variable in outline, entire or usually (in Peruvian material) 3-lobed, the middle lobe the largest; bracts setaceous; flowers 8–13 mm. wide, solitary or in pairs; sepals ovate-lanceolate, greenish yellow; petals none; corona filaments in 2 series, filiform, the outer ones purple, white, and yellow, the inner green; operculum plicate; fruit globose or ovoid, 6–15 mm. in diameter, glabrous; seeds coarsely reticulate.

Tumbez: Hacienda Chicama, 900 meters, *Weberbauer 7638*.—Lima: Callao, *Sargent 36*; *Gaudichaud 154, 154bis*. Lima, *Ball* in

1882; *Killip & Smith 21524*; *Rose 18773*; *Ruiz & Pavón*; *Savatier 1438*; *Wawra 2651*. Lurín, *Pennell 12207*. Atocongo, *Pennell 14772*. Ancón, 120 meters, *Mexia 8101*. Chosica, 1,000 meters, *2855*. Miraflores, *Savatier 1439*.—Department uncertain: La Convención, *Bues* in 1928.—Without locality: *Dombey 734*; *Née*; *Gay*. Common throughout tropical America. "Noxbe cimarrón."

Passiflora subulata Mast. in Mart. Fl. Bras. 13, pt. 1: 567. 1872. *P. platyceras* Harms, Repert. Sp. Nov. 18: 298. 1922.

Plant glabrous; stipules semi-oblong-lanceolate, 2–3.5 cm. long; petioles biglandular at or above the middle; blades 4–7 cm. long, 5–8 cm. wide, 3-lobed to the middle, the lobes ovate or ovate-oblong, obtuse, ascending; bracts ovate or ovate-oblong, 1.5–2.5 cm. long, cordate, borne close to the flower base; flowers 6–8 cm. wide, white; sepals oblong-lanceolate, keeled, the keel terminating in a green, foliaceous awn 8–12 mm. long; petals lanceolate; corona filaments in 3 series, the outermost capillary, about 2 cm. long, the others 2–3 mm. long; operculum fimbriate to the middle.

Junín: Huacapistana, 1,800–2,500 meters, *Weberbauer 2171*, type of *P. platyceras*; *Killip & Smith 24311, 24323*. Pariahuanca Valley, between Panti and Rocchac, 2,400 meters, *Weberbauer 6542*.—Without locality: *MacLean*, type.

Passiflora tarapotina Harms, Verh. Bot. Ver. Brandenb. 48: 185. 1907. *Tacsonia glauca* Poepp. ex Mast. in Mart. Fl. Bras. 13, pt. 1: 569. 1872, as synonym?

Plant glabrous throughout; stipules semi-ovate, up to 2.5 cm. long; petioles up to 4 cm. long, biglandular near the middle; blades 6–8 cm. long, 9–10 cm. wide, 3-lobed to below the middle, subpeltate, glaucous beneath; peduncles 10–16 cm. long, very slender; bracts narrowly oblong to ovate-oblong, 10–15 mm. long, serrulate; flowers blood-red; calyx tube cylindric, 2–2.5 cm. long; sepals and petals narrowly oblong, subequal to the tube, the sepals bearing a large, foliaceous awn; corona in 3 or 4 closely approximate ranks of filaments barely 1 mm. long; operculum filamentose half its length.—F.M. Neg. 16559.

San Martín: Tarapoto, about 750 meters, *Ule 6462*, type; *Spruce 3923*; *Williams 5418, 5555, 5709, 5776*.—Loreto: Juanjuí, Province of Mainas, *Poeppig* in 1830 ("*Tacsonia glauca*?"). Very similar in leaf shape to *P. aristulata* and *P. subulata* but readily distinguished by the flowers.

Passiflora tenella Killip, Journ. Wash. Acad. Sci. 20: 375. 1930.

A very slender vine, essentially glabrous throughout; stipules setaceous; petioles glandless; blades transversely oblong in general outline, 1.5–3 cm. long, 4–7 cm. wide, shallowly 3-lobed at the truncate apex (lobes obtuse or truncate; rarely the leaves distinctly 3-lobed about a third their length), thin-membranous, glaucous beneath; peduncles solitary, 2–3 cm. long, very slender; bracts setaceous; flowers about 1.5 cm. wide, greenish white; sepals and petals thin-transparent, the petals only 2–3 mm. long; corona filaments filiform, in 2 series, the outer equaling the sepals, the inner very short; operculum only slightly plicate; fruit ellipsoidal, about 3 cm. long and 8 mm. in diameter, 6-ribbed, stipitate; seeds transversely 4–5-sulcate.

Tumbez: Hacienda La Choza, 100–200 meters, *Weberbauer 7704*, type.—Lima: Lima Botanical Garden, said to have come from forests of eastern Peru, *Pennell 14801*. Ecuador.

Passiflora Tessmannii Harms, Notizbl. Bot. Gart. Berlin 9: 978. 1926.

Scandent shrub; leaves ovate, broadly oblong, or obovate, 5–9 cm. long, 2.5–6.5 cm. wide, acute or subacute, entire, membranous, minutely puberulous beneath; peduncles solitary or in pairs; calyx tube cylindric-campanulate, about 1 cm. long; flowers white; sepals narrowly oblong, 1.5 to 2 cm. long, the petals similar but shorter; corona filaments in 2 series, the outer ones falcate-dilated above the middle, attenuate at the tip, about 7 mm. long, yellow, the inner subulate, much shorter; operculum fimbriate; ovary ovoid, velutinous.—F.M. Neg. 16560.

Loreto: Río Marañón, at mouth of Río Santiago, *Tessmann 4385*, type.

Passiflora tiliaefolia L. Sp. Pl. 956. 1753.

Plant glabrous throughout; stipules ovate-lanceolate or oblong-lanceolate, 1–2 cm. long, the upper ones rarely narrowly linear-lanceolate; petioles 2–4-glandular, the glands saucer-shaped, subsessile or short-stipitate; blades cordate-ovate, 10–25 cm. long, 8–18 cm. wide, abruptly acuminate, cordate, entire; bracts ovate, about 2 cm. long, connate part way; flowers about 8 cm. wide, the sepals and petals oblong; corona 5-ranked, the 2 outer rows of filaments radiate, about half as long as the petals, the 3 inner rows much shorter; fruit subglobose, about 5 cm. in diameter.

Peru: Without locality, *Pavón*.

This is a doubtful species, based originally upon a figure given by Feuillée (1714) of a plant growing at Lima. Specimens from the mountains of Colombia (between 1,500 and 2,500 meters) apparently represent this species.

Passiflora tricuspis Mast. in Mart. Fl. Bras. 13, pt. 1: 587. 1872.

Stem glabrous, the ridges strongly scabrellous; stipules setaceous; petioles finely pilosulous or nearly glabrous, glandless; blades variable but in Peruvian plants usually 3-lobed from a third to two-thirds their length (lobes lanceolate to linear-oblong, subequal or the middle one the longer, the lateral lobes ascending), 5–13 cm. along the midnerve, 4.5–11 cm. along the lateral nerves, 3–7 cm. wide, glabrous or minutely puberulent above, finely pilosulous beneath; bracts setaceous; flowers 3–4.5 cm. wide; sepals and petals oblong or lance-oblong, white; corona 2-ranked, the outer filaments narrowly liguliform, about 1.5 cm. long, the inner narrowly linear, 2–2.5 mm. long, capitate; operculum plicate; ovary glabrous; fruit globose, about 1.5 cm. in diameter; seeds transversely 7-sulcate.

Loreto: Río Ucayali, *Tessmanni* 3194.—Junín: La Merced, 600–700 meters, 5436; *Killip & Smith* 23474. Bolivia to eastern Brazil and Paraguay.

Passiflora trifasciata Lemaire, Ill. Hort. 15: pl. 544. 1868.

Plant glabrous throughout; stipules subulate; petioles glandless; blades 5–10 cm. along midnerve, 4–10 cm. along lateral nerves, 4–10 cm. wide, 3-lobed about a third their length (lobes deltoid, acute or subobtusate, the lateral ascending), membranous, dark green, mottled with white or yellowish green along the nerves above, reddish or violet beneath; bracts setaceous; flowers 2.5–3.5 cm. wide; sepals oblong, light green; petals linear, light green; corona 2-ranked, the outer filaments terete, 8–10 mm. long, the inner linear-clavate, much shorter; operculum plicate; fruit globose, 1.5–2.5 cm. in diameter; seeds transversely 6-sulcate.

San Martín: Lamas, 840 meters, *Williams* 6327.—Loreto: Yurimaguas, 135 meters, *Killip & Smith* 27819, 28069, 28297, 28318; *Williams* 5075, 5213. Balsapuerto, 200 meters, *Killip & Smith* 28412. Frequently cultivated; probably endemic to northern Peru. "Millua caspi."

Passiflora trifoliata Cav. Icon. 5: 16. pl. 427. 1799. *Tacsonia trifoliata* Juss. Ann. Mus. Hist. Nat. Paris 6: 393. 1805. *T. trigona* DC. Prodr. 3: 334. 1828.

A rather stout vine, densely short-villous-hirsute throughout; stipules oblong or oblong-lanceolate, 1.5–3 cm. long, glandular-fimbriate; leaves trifoliolate, the petioles obscurely glandular, the leaflets ovate-oblong or linear-oblong, 3–5 cm. long, 1.5–2.5 cm. wide, acute, sessile, entire or serrulate; peduncles up to 9 cm. long, very stout; bracts free to the base, ovate-oblong, 2–3.5 cm. long, closely fimbriate or lacinate-fimbriate; flowers pendent, the calyx tube cylindric, 3–4 cm. long, green, purple-tinged without; sepals ovate-oblong, 2–3 cm. long, deep pink, white toward the base; petals ovate-oblong; corona minutely tuberculate, 2-ranked; fruit ovoid, 4–6 cm. long, 2.5–3.5 cm. in diameter, longitudinally 3-grooved; seeds reticulate.

Ancash: Tallenga, *Weberbauer 2878a*. Province of Cajatambo, *Weberbauer 2654*.—Lima: "Lima," *Weberbauer 261*. Río Blanco, 3,200 meters, *Killip & Smith 21636*. Viso, 2,700 meters, *579*. Huaros, 3,500 meters, *Pennell 14723*. Río Rimac, *Forster in 1905*.—Huánuco: Huariaca, *Sawada P97*.—Junín: Tarma, *Mathews 674*. Huancayo, 4,000 meters, *Ledig 4*. Oroya, *Kalenborn 184*.—Cuzco: Paucartambo, *Herrera 485*.—Department uncertain: Guamantanga, *Née*, type; Cajavilca Valley, *Savatier 1631*.—Without locality: *Ruiz & Pavón* (type of *Tacsonia trigona*); *Lobb 20*; *Savatier 490*; *Gay 542*; *Dombey 744*; *Haenke 1847*; *Raimondi 8597*; *Wilkes Expedition*. "Naupa-mchu-jamppajhuai" (Inca).

Passiflora triloba R. & P. ex DC. Prodr. 3: 330. 1828. *P. colubrina* Poepp. & Endl. Nov. Gen. & Sp. 2: 58. 1838.

Plant essentially glabrous throughout; stipules ovate-lanceolate, 2–3 cm. long; petioles biglandular at the apex, the glands saucer-shaped; blades 10–15 cm. long, 10–18 cm. wide, cordate-ovate or usually 3-lobed to about the middle (lobes ovate or oblong-ovate, subequal, obtuse, minutely denticulate), deeply cordate, glaucescent beneath; bracts ovate, 4.5–7 cm. long, connate only at the base; flowers up to 10 cm. wide; sepals oblong-lanceolate, purple-spotted or purple-tinged, the petals longer than the sepals; corona 3-ranked, the 2 outer rows of filaments banded with purple and white below and with blue and white above.—F.M. Neg. 16562.

San Martín: Tarapoto, *Spruce 4052*.—Loreto: Yurimaguas, 135 meters, *Killip & Smith 27664, 27834, 28716*; *Williams 4980*; *Poeppig 2171*, type of *P. colubrina*. Río Ucayali, *Tessmann 3155*.—Junín: San Ramón, 1,000 meters, cultivated, *Killip & Smith 24092*. Also in Bolivia.

Passiflora trisecta Mast. in Mart. Fl. Bras. 13, pt. 1: 564. 1872.
P. thaumasiantha Harms, Notizbl. Bot. Gart. Berlin 10: 813. 1929;
 Rev. Chil. Hist. Nat. 34. f. 47. 1930.

Plant ferruginous-villous or -tomentose; stipules ovate-lanceolate, 1–2.5 cm. long, lacinate-serrate, the serrations glandular; petioles 5–7-glandular, the glands filiform; blades trifoliolate, the leaflets oblong-lanceolate, 4–9 cm. long, 1.5–3 cm. wide, acuminate, petiolulate, serrate; peduncles stout, 8–15 cm. long; bracts ovate, 2.5–3.5 cm. long, free to base, deeply fimbriate-lacinate; flowers white; calyx tube tubular-campanulate, 1–1.5 cm. long; sepals narrowly oblong, 2–4 cm. long; petals linear-lanceolate; corona in 3 series, the outer 2 filamentose, the innermost dentiform; fruit globose, about 5 cm. in diameter; seeds reticulate.

Junín: La Mejorada, 2,600 meters, *Killip & Smith 23345*.—Ayacucho: Anco, Río Mantaro Valley, 2,800 meters, *Killip & Smith 22178*. Huanta, 2,800 meters, *Killip & Smith 23332*.—Cuzco: Urubamba Valley, *Cook & Gilbert 824*; *Herrera 1673*, type of *P. thaumasiantha*. Mollepata, *Herrera 1223*.—Arequipa: Huaspa, *Raimondi 11479*. Also in Bolivia, where known only from the type specimen, collected by Pentland. “Tumbo tumbo,” “kita tumbo.”

Passiflora vespertilio L. Sp. Pl. 957. 1753.

Stem glabrous or finely puberulent; stipules narrowly linear-setaceous; petioles short, glandless; blades coriaceous, glabrous and lustrous above, glabrous or slightly puberulent beneath, 2–3-lobed, the lobes divaricate, acuminate, the upper margin usually truncate, often also undulate; bracts setaceous; flowers 4–5 cm. wide, yellowish green; sepals broadly lance-oblong, obtuse; petals oblong, shorter than the sepals; corona 2-ranked, the outer filaments narrowly liguliform, united at the base into a broad membrane, the free filaments 1–1.5 cm. long, the inner filaments capillary, much shorter; operculum closely plicate; ovary ovoid, glabrous; fruit subglobose, 1–1.5 cm. in diameter; seeds transversely sulcate.

Loreto: Río Nanay, *Williams 1201*. Iquitos, 100 meters, *Williams 8180*. A common plant of the Guianas and Amazonian Brazil, barely entering northern Peru and Bolivia.

Passiflora vestita Killip, Field Mus. Bot. 19: 473. 1938.

Plant densely rufo-hirsute nearly throughout; stipules semiannular about the stem, lacinate nearly to the base, the segments filiform, gland-tipped; petioles glandless but bearing numerous gland-tipped hairs; blades 7–15 cm. long, 6–12 cm. wide, 3-lobed, truncate

or cordate, densely glandular-ciliate, the lobes ovate-lanceolate, acute or acuminate, the lateral lobes suberect; bracts 4–5 cm. long, pinnatisect or obscurely twice-pinnatisect, the segments filiform, gland-tipped; fruit globose, about 4 cm. in diameter; seeds obcuneate, about 8 mm. long and 5 mm. wide, tridentate, reticulate at the middle of each face, smooth toward the margin.

Loreto: Between Yurimaguas and Balsapuerto, 135–150 meters, *Killip & Smith 28126*, type.

Passiflora vitifolia HBK. Nov. Gen. & Sp. 2: 138. 1817.
P. punicea R. & P. ex DC. Prodr. 3: 329. 1828.

Stem, petioles, and peduncles densely ferruginous-tomentose; stipules setaceous, deciduous; petioles biglandular at the base, rarely with additional glands; blades up to 15 cm. long and 18 cm. wide, 3-lobed to below the middle, irregularly repand-dentate or crenate, tomentulous on the nerves above, densely puberulent or tomentulous beneath; peduncles up to 9 cm. long; bracts oblong to oblong-lanceolate, 1.5–2.5 cm. long, 4–8 mm. wide, acuminate, glandular-serrate, reddish; flowers scarlet; calyx tube cylindric, 1–1.8 cm. long; sepals lanceolate, 6–8 cm. long; petals linear-lanceolate, slightly shorter than the sepals; corona 3-ranked, the 2 outer ranks filamentose, the outermost filaments 1.5–2 cm. long, red or yellow, the next ones somewhat shorter, pale red, the third rank tubular, pale red, short-filamentose; ovary densely tomentulous; fruit ovoid, about 5 cm. long, puberulent; seeds reticulate.

San Martín: Juanjuí, Alto Río Huallaga, 400–800 meters, *Klug 4190*.—Without definite locality: *Ruiz & Pavón*, type of *P. punicea*. Common from Nicaragua to Amazonian Venezuela; rare in Ecuador.

Passiflora Weberbaueri Harms, Bot. Jahrb. 54: Beibl. 117: 79. 1916.

Plant essentially glabrous; stipules broadly semi-ovate or semi-cordate, up to 1.7 cm. long, lacerate; petioles bearing 2 pairs of stipitate glands; blades trifoliolate, the leaflets oblong to ovate-lanceolate, 6–14 cm. long, 2–5 cm. wide, subsessile or short-petiolulate, acuminate, serrate, coriaceous; peduncles 7–12 cm. long; bracts oblong or ovate-oblong, 4–4.5 cm. long, free to the base, lacerate-serrate; flowers white; calyx tube urceolate-campanulate, up to 1.5 cm. long; sepals narrowly lanceolate, 5–6 cm. long; petals broadly linear, slightly shorter than the sepals; corona in 3 series, the outer 2 ranks filamentose, the innermost membranous, short-filamentose; ovary velutinous.—F.M. Neg. 3285.

Cuzco: Cosñipata, 2,700–2,800 meters, *Weberbauer 6933*, type.
Yanamayo, 2,200–2,400 meters, *Pennell 14040*.

2. DILKEA Mast.

Woody vines (the Peruvian species), glabrous throughout, without tendrils or rarely with a few poorly developed ones; leaves alternate, petiolate, simple, entire; bracts minute, subulate; flowers (in the Peruvian species) in sessile or subsessile glomerules, white, the sepals 4, oblong, 2 broader than the other 2, united below the middle when young to form a cylindric or funnel-shaped tube, at length separating to the base and readily deciduous, the petals 4 or 5, free; corona 2-ranked, the outer rank consisting of slender, free or nearly free filaments, the inner tubular in the lower part, cleft above into floccose, crispate threads or into segments margined with such threads; operculum none; stamens 8, hypogynous; ovary subsessile or borne on a short gynophore; fruit globose or ovoid.

Dilkea is confined to the middle and upper Amazon Basin, and is known from only a few collections. Five species are at present recognized but additional material may well show that the genus is monotypic.

Sepals not more than 1.5 cm. long; ovary subsessile; leaves obovate.

D. parviflora.

Sepals 2–3 cm. long; ovary borne on a short gynophore.

Leaves cuneiform, truncate at the upper margin except for a short lobe at the center.....*D. retusa*.

Leaves broadly ovate to oblong-oblongate, rounded or acuminate.....*D. Wallisii*.

Dilkea parviflora Killip, Field Mus. Bot. 19: 575. 1938.

Leaves obovate, 15–18 cm. long, 8.5–10.5 cm. wide, rounded at the apex, coriaceous; flowers white; sepals and petals oblong, 1.2–1.5 cm. long, obtuse; outer corona filaments narrowly liguliform, about 1.3 cm. long, the inner ones narrowly flabellate, about 1 cm. long, densely crispate-floccose at the margin in the upper half.

Loreto: Mishuyacu, 100 meters, *Klug 1158*, type.

Dilkea retusa Mast. Trans. Linn. Soc. 27: 628. 1871.

Leaves cuneiform, 15–20 cm. long, 7–11 cm. wide, coriaceous, the lateral nerves divaricate at nearly a right angle from the mid-nerve, slightly ascending; sepals and petals oblong, 1.5–2.5 cm. long; outer corona filaments liguliform, 2–2.5 cm. long, the inner filiform

in the lower half, spatulate-dilated in the upper half and margined with floccose, crispate threads.

Loreto: Mishuyacu, 100 meters, *Klug 1017*.

Dilkea Wallisii Mast. in Mart. Fl. Bras. 13, pt. 1: 622. *pl. 106, f. 3. 1872.*

Leaves ovate to oblong-ob lanceolate, 12–15 cm. long, 5–10 cm. wide, abruptly acuminate at the rounded apex, rounded or cuneate at the base, coriaceous, the lateral nerves ascending; sepals and petals oblong, 2.5–3 cm. long; outer corona filaments narrowly ligulate, about 2 cm. long, the inner filiform below the middle, spatulate-dilated in the upper half and margined with floccose, crispate threads; fruit depressed-spherical, up to 2.5 cm. long and 4.5 cm. wide.

Loreto: Florida, Río Putumayo, at mouth of Río Zubineta, 200 meters, *Klug 2100*. Gamitanacochoa, Río Mazán, 100–125 meters, *J. M. Schunke 233*.

CARICACEAE. Papaya Family

Low or often tall and simple-trunked trees usually characteristic in appearance by virtue of the ample, somewhat peltate, palmately lobed or 7–9-foliolate leaves crowded and spreading or drooping from near the tips of the branchlets and often overhanging the melon-like fruits. Flowers usually unisexual, the male and female corollas dissimilar, the former paniced, the latter solitary or, if paniced, usually few and crowded. Corolla with a long slender tube, the limb horizontally divaricate, the 5 petals soon caducous.—The sap of the leaves is milky, sometimes orange-colored.

Calyx and corolla segments alternate with each other; stamens rarely coalescent below.....1. *Carica*.

Calyx and corolla segments, at least the male, opposite; stamens usually coalescent below.....2. *Jacaratia*.

1. CARICA L.

Reference: Solms-Laubach in Mart. Fl. Bras. 13, pt. 3: 174–195. 1889.

Stamens 10, 5 sessile or subsessile, alternating with the corolla lobes, 5 inserted in the throat on short filaments. Style wanting or short, rarely elongate, the stigmas 5, entire to variously divided.

The Peruvian species all belong to the section *Vasconcellea* (St. Hil.) Solms-Laubach, characterized by 5-celled fruits (unless when