

BULLETIN

OF THE

TORREY BOTANICAL CLUB

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Studies of West Indian plants—IX

NATHANIEL LORD BRITTON

52. CLEOME PROCUMBENS JACQ. AND ITS RELATIVES

The small, simple-leaved Cleomes of the West Indies, form an interesting and peculiar group of the genus, very different in habit and aspect from the large, typical, compound-leaved ones. Seven species appear to be represented.

Annuals or biennials.

Pedicels filiform.

Leaves linear-oblong; pod subterete.

1. *C. Sloanei*.

Leaves filiform; pod compressed.

2. *C. guianensis*.

Pedicels very short; leaves very narrowly linear.

3. *C. stenophylla*.

Perennials with woody roots.

Pod acute or acuminate; leaves linear to oblong, acute or acuminate.

Leaves acuminate; pedicels half as long as the pods.

4. *C. procumbens*.

Leaves acute; pedicels as long as the pods or longer.

Petals about 4 mm. long; leaves oblong to oblong-lanceolate.

5. *C. Wrightii*.

Petals 8-10 mm. long; leaves narrowly linear.

6. *C. macrorrhiza*.

Pod obtuse; leaves ovate or elliptic, obtuse or rounded.

7. *C. obtusa*.

1. CLEOME SLOANEI Urban, Symb. Ant. 5: 347. 1907

Grassy and sandy places, at low elevations, southern side of Jamaica.

This species is referred by Fawcett and Rendle, as previously by other authors, to *C. procumbens* Jacq., which is, apparently, confined to Hispaniola.

2. *CLEOME GUIANENSIS* Aubl. Pl. Guian. 2: 675. 1775

Sandy pine lands, Pinar del Rio, Cuba; northern South America.

3. *CLEOME STENOPHYLLA* Klotzsch; Urban, Symb. Ant. 4: 251. 1905

Plains at low elevations, southern and southwestern Porto Rico; St. Bart's; Bonaire; hillsides, Curaçao; Guiana.

4. *CLEOME PROCUMBENS* Jacq. Stirp. Am. 189. pl. 120. 1763

Hispaniola. Erroneously recorded from Cuba, and, apparently also erroneously referred to Jamaica, as Jacquin's figure of the type would seem to represent a well-marked species, not collected since its original discovery.

5. *CLEOME WRIGHTII* Urban, Symb. Ant. 5: 346. 1907

Sandy soil, Pinar del Rio and Isle of Pines, Cuba.

6. *CLEOME MACRORHIZA* Wright; Sauvalle, Anales Acad. Habana 5: 199. 1868

Pine-lands, Pinar del Rio, Cuba.

7. *Cleome obtusa* sp. nov.

Perennial by a slender woody root, glabrous; stems numerous, prostrate, simple or few-branched, slender, 5–15 cm. long. Leaves ovate or elliptic, 4–6 mm. long, rounded or obtuse at the apex, rounded at the base, the midvein prominent, the lateral venation obscure, the petioles 1–2 mm. long; peduncles slender or filiform, 4–8 mm. long; sepals obtuse, 2–2.5 mm. long; petals yellow, oblong or oblong-obovate, obtuse or acutish, 3–4 mm. long; stamens about two-thirds as long as the petals; filaments filiform; style about 1 mm. long; capsule elliptic, elliptic-obovate or oblong, compressed, 3–6 mm. long, 2–2.5 mm. wide, obtuse at the apex, somewhat narrowed at the base, few-several-seeded.

Dry and rocky soil in palm-barrens and savannas, Camaguey and Santa Clara, and in sand on Cayo Guayaba, Cuba. Type from savannas near Camaguey (*Britton & Cowell 13165*). Hitherto included in *C. Wrightii* Urban.

53. CHAMAECRISTA MOENCH IN THE WEST INDIES

Type species: *Chamaecrista nictitans* (L.) Moench.

- A. Sepals rigid, scarious, many-nerved (*Diphyllae*). 1. *C. diphylla*.
- B. Sepals membranous, scarcely nerved.
- a. Prostrate herbs, the flowers on filiform peduncles.
- Leaflets only 1 pair, obovate; stipules cordate (*Rotundifoliae*). 2. *C. rotundifolia*.
- Leaflets 3-7 pairs, oblong to obovate; stipules lanceolate (*Pilosae*). 3. *C. pilosa*.
- Stems pilose. 4. *C. serpens*.
- Stems appressed-pubescent.
- b. Erect, ascending or rarely prostrate herbs or shrubs.
- i. Midvein of the leaflet central or excentric, not marginal.
- * Shrubs, with coriaceous or subcoriaceous leaves.
- † Leaflets many, 20-50 pairs, linear; stipules large; stem flexuous (*Flexuosae*). 5. *C. flexuosa*.
- †† Leaflets fewer, 2-12 pairs, oblong or obovate; stipules small; stem not flexuous (*Lineatae*). 6. *C. grammica*.
- ‡ Foliage densely pubescent.
- ‡‡ Foliage glabrous or puberulent.
- § Leaflets dull.
- Leaflets obovate or oblanceolate.
- Leaflets 2 or 3 pairs, 5 mm. long or less. 7. *C. obcordata*.
- Leaflets 3-11 pairs, 7-15 mm. long.
- Gland sessile. 8. *C. lineata*.
- Gland stalked. 9. *C. granulata*.
- Leaflets oblong.
- Leaflets acute, cuspidate. 10. *C. pinetorum*.
- Leaflets rounded and mucronulate at apex. 11. *C. jamaicensis*.
- §§ Leaflets shining.
- Leaflets oblong, or the upper obovate, 1.5 cm. long or less, strongly callous-margined.
- Leaflets glabrous; gland large, nearly sessile. 12. *C. portoricensis*.
- Leaflets ciliate; gland small, stalked. 13. *C. Tuerckheimii*.
- Leaflets elliptic to ovate to obovate, 1.5-3 cm. long, not callous-margined.
- Leaflets elliptic, acute. 14. *C. caribaea*.
- Leaflets ovate to obovate, obtuse, retuse, or mucronate.
- Leaflets 1-3 pairs, obovate, mostly retuse. 15. *C. inaguensis*.

- Leaflets 4-9 pairs, ovate to
ovate-oblong, mostly obtuse. 16. *C. lucayana*.
- ** Herbs or shrubs, with membranous leaves
(*Glandulosae*).
- † Flowers large, 2-4 cm. broad.
Leaflets villous or pubescent beneath.
Glands elongated, petiolar and also often
between the leaflets; midvein of leaflets
nearly central, the lateral veins many. 17. *C. glandulosa*.
Glands short, sessile, petiolar only; mid-
vein of leaflets excentric, the lateral
veins few. 18. *C. Dussii*.
- Leaflets glabrous beneath.
Leaflets oblong to linear; gland stipitate. 19. *C. Swartzii*.
Leaflets obovate or oblong; gland sessile
or stout-stipitate. 20. *C. polyadena*.
- †† Flowers small, seldom over 1 cm. broad.
‡ Petiolar glands sessile, or very short-
stalked.
Prostrate; leaflets 4-6 pairs. 21. *C. pygmaea*.
Erect or ascending; leaflets 8 pairs or more.
Plant densely hirsute all over. 22. *C. patellaria*.
Plants glabrate or more or less villous.
Pod black-banded and black-mar-
gined. 23. *C. fasciata*.
Pod not black-banded.
Leaflets 10-15 mm. long, the
midvein little excentric. 24. *C. aeschynomene*.
Leaflets 5-8 mm. long, the mid-
vein very excentric.
Petals 6 mm. long; plant
sparingly short-pubescent. 25. *C. savannarum*.
Petals 3 mm. long; plant
villous. 26. *C. micrantha*.
- †† Petiolar glands distinctly stalked.
Pod 3.5-4 mm. broad; pubescence widely
spreading. 27. *C. riparia*.
Pod 3 mm. broad or less.
Petiolar glands often 2; leaflets oblong;
plant glabrous, or pubescent only
above. 28. *C. mirabilis*.
Petiolar gland 1; leaflets linear or
linear-oblong; plant pubescent or
villous. 29. *C. Chamaecrista*.
2. Midvein of the leaflet approximate to its upper
margin (*Strigillosae*).
Petiolar gland small, subsessile.
Leaves sparingly pubescent. 30. *C. strigillosa*.
Leaves densely pilose. 31. *C. adenosperma*.

Petiolar gland stalked.

Pod glabrous or nearly so.

32. *C. pedicellaris*.

Pod short-pilose.

33. *C. Buchii*.

1. CHAMAECRISTA DIPHYLLA (L.) Greene, Pittonia 4: 28. 1899

Cassia diphylla L. Sp. Pl. 376. 1753.

TYPE LOCALITY: "In India."

DISTRIBUTION: Provinces of Santa Clara, Pinar del Rio and on Isle of Pines, Cuba; Hispaniola; Porto Rico; recorded by Grisebach from St. Kitts and St. Vincent; continental tropical America.

2. CHAMAECRISTA ROTUNDIFOLIA (Pers.) Greene, Pittonia 4: 31.
1899

Cassia rotundifolia Pers. Syn. 1: 456. 1805.

Cassia bifoliata DC.; Collad. Cass. 120. 1816.

TYPE LOCALITY: South America.

DISTRIBUTION: Provinces of Santa Clara and Pinar del Rio and on Isle of Pines, Cuba; Jamaica; continental tropical America.

ILLUSTRATION: Collad. Cass. *pl.* 9.

3. CHAMAECRISTA PILOSA (L.) Greene, Pittonia 4: 28. 1899

Cassia pilosa L. Syst. Ed. 10, 1017. 1759.

Cassia Milleri Collad. Cass. 132. 1816.

TYPE LOCALITY: Jamaica (Sp. Pl. Ed. 2, 540).

DISTRIBUTION: Province of Pinar del Rio and Isle of Pines, Cuba; Jamaica; northern South America.

4. CHAMAECRISTA SERPENS (L.) Greene, Pittonia 4: 29. 1899.

Cassia serpens L. Syst. Ed. 10, 1018. 1759.

TYPE LOCALITY: Jamaica (Sp. Pl. Ed. 2, 541).

DISTRIBUTION: Provinces of Havana and Pinar del Rio, Cuba; Jamaica; northern South America.

5. CHAMAECRISTA FLEXUOSA (L.) Greene, Pittonia 4: 27. 1899

Cassia flexuosa L. Sp. Pl. 379. 1753.

Chamaecrista amplistipulata Rose, Contr. Nat. Herb. 12: 267.
1909.

TYPE LOCALITY: Brazil.

DISTRIBUTION: Pinar del Rio and Isle of Pines, Cuba; continental tropical America.

ILLUSTRATION: Breyn, *pl.* 23.

6. CHAMAECRISTA GRAMMICA (Spreng.) Pollard, Field Col. Mus.
Bot. 2: 47. 1900

Cassia grammica Spreng. Neue Entd. 3: 55. 1822.

Cassia lineata brachyloba Griseb. Mem. Am. Acad. II. 8: 179.
1860.

TYPE LOCALITY: Maritime regions, Cuba and Hispaniola.

DISTRIBUTION: Cuba (according to Sprengel) and collected by Wright in Oriente; Hispaniola; Porto Rico; Little St. James Island, St. Jan.

The plant of southern Florida, referred to this species by Chapman and by Small, is distinct, according to the studies of Dr. Pennell.

7. Chamaecrista obcordata (Sw.).

Cassia obcordata Sw.; Wikstr. Vetensk. Acad. Handl. 1825: 429.
1826.

TYPE LOCALITY: St. Bart's.

DISTRIBUTION: St. Bart's; I refer, with doubt, Dr. Boldinghs' No. 5288B from St. Martin to this species, which he recorded as *Cassia polyadena* DC. (Fl. Nederl. West Ind. 211); the St. Martin plant is more nearly related to *C. lineata* than to *C. polyadena*. Bentham indicates the same affinity for the plant of St. Bart's (Trans. Linn. Soc. 27: 572). No modern collections have been made on St. Bart's; it lies close to St. Martin.

8. CHAMAECRISTA LINEATA (Sw.) Greene, Pittonia 4: 31. 1899

Cassia lineata Sw. Prodr. 66. 1788.

Cassia cuneata Griseb. Cat. Pl. Cub. 80. 1866. Not *C. cuneata* DC.

TYPE LOCALITY: Jamaica.

DISTRIBUTION: Jamaica; Cuban provinces of Oriente, Camaguey and Santa Clara, and Isle of Pines; Hispaniola; Bahamas. Specimens from the south coast of Santa Clara, Cuba, have puberulent foliage.

9. *CHAMAECRISTA GRANULATA* (Urban) Britton, Ann. Missouri Bot. Gard. 2: 41. 1915

Cassia portoricensis granulata Urban, Symb. Ant. 1: 318. 1899.

Chamaecrista portoricensis granulata Cook & Collins, Contr. Nat. Herb. 8: 113. 1903.

TYPE LOCALITY: Near Salinas de Cabo Rojo, Porto Rico.

DISTRIBUTION: Southwestern Porto Rico; Mona.

10. *Chamaecrista pinetorum* sp. nov.

Shrubby, 4 dm. high, or higher, the branches slender, densely appressed-pubescent with brownish hairs. Stipules linear-lanceolate, striate, long-acuminate, 4-6 mm. long; leaves 3-5 cm. long, the rachis appressed-pubescent; leaflets 9 pairs or fewer, subcoriaceous, linear to linear-oblong, 10-15 mm. long, 2-4 mm. wide, glabrous on both sides, dull, acute and cuspidate at the apex, obliquely rounded at the base, closely pinnately veined, the prominent midvein nearly central, the petiolar gland slender-stalked; peduncles filiform, appressed-pubescent, 2-bracted, about 3 cm. long; sepals lanceolate, acuminate, 10-12 mm. long; petals obovate, somewhat shorter than the sepals or as long; ovary appressed-pubescent.

Pine woods, near Constanza, Santo Domingo, at 1,200 m. alt. (*Tuerckheim* 2887).

11. *CHAMAECRISTA JAMAICENSIS* Britton, Bull. Torrey Club 42: 515. 1915

TYPE LOCALITY: South slope of Long Mountain, Jamaica.

DISTRIBUTION: Southern side of Jamaica.

12. *CHAMAECRISTA PORTORICENSIS* (Urban) Cook & Collins, Contr. Nat. Herb. 8: 113. 1903

Cassia portoricensis Urban, Symb. Ant. 1: 317. 1899.

Cassia portoricensis callosa Urban, Symb. Ant. 1: 317. 1899.

Chamaecrista portoricensis callosa Cook & Collins, Contr. Nat. Herb. 8: 113. 1903.

TYPE LOCALITY: Near Guayanilla, Porto Rico.

DISTRIBUTION: Southern and western Porto Rico.

13. **Chamaecrista Tuerckheimii** sp. nov.

Shrubby, with a deep woody root; stems slender, villous-pubescent, 8–10 cm. long. Stipules obliquely ovate-lanceolate, acuminate, striate, 2–3 mm. long; leaves 2–2.5 cm. long, the rachis villous-pubescent; leaflets 6 or 7 pairs, linear-oblong, to oblong-ob lanceolate, 6–8 mm. long, about 2 mm. wide, ciliate, shining, rounded or subtruncate and mucronulate at the apex, obliquely rounded at the base, pinnately veined with the prominent midvein somewhat excentric, the petiolar gland short-stalked; peduncles slender, villous, about 2 cm. long; sepals lanceolate, acuminate, villous, 7–8 mm. long; petals obovate, about twice as long as the sepals; legume linear, narrowed at both ends, nearly glabrous, 1.8 cm. long.

Near Maniel de Ocoa, Santo Domingo, in fields, 300 m. alt. (*Tuerckheim* 368c).

14. **Chamaecrista caribaea** (Northrop)

Cassia caribaea Northrop, Mem. Torrey Club 12: 39. 1902.

TYPE LOCALITY: Fresh Creek, Andros, Bahamas.

DISTRIBUTION: Andros, New Providence and Cat Island, Bahamas.

ILLUSTRATION: Northrop, *loc. cit.* pl. 6.

15. **Chamaecrista inaguensis** comb. nov.

Cassia inaguensis Britton, Bull. N. Y. Bot. Gard. 3: 443. 1905.

TYPE LOCALITY: Inagua, Bahamas.

DISTRIBUTION: Inagua, South Caicos, Grand Turk, and Ambergris Cay, Bahamas.

16. **Chamaecrista lucayana** comb. nov.

Cassia lucayana Britton, Bull. N. Y. Bot. Gard. 4: 138. 1906.

TYPE LOCALITY: Cay north of Wide Opening, Exuma Chain, Bahamas.

DISTRIBUTION: Great Bahama, Cat Island, Conception, Rum Cay, and Exuma Chain, Bahamas.

17. **CHAMAECRISTA GLANDULOSA** (L.) Greene, *Pittonia* 4: 28. 1899

Cassia glandulosa L. Syst. Ed. 10, 1017. 1759.

Cassia virgata Sw. Prodr. 66. 1788.

?*Cassia stricta* Schrank, Hort. Monac. 1: pl. 34. 1819.

Chamaecrista virgata Greene, Pittonia 4: 31. 1899.

TYPE LOCALITY: Jamaica.

DISTRIBUTION: Jamaica.

ILLUSTRATIONS: Bot. Mag. pl. 3435; Schrank, *loc. cit.*

Linnaeus included, in his citations of synonyms of this species, several others, but his description of it, together with his having received a Jamaica specimen from the collection of Patrick Browne, prior to his publication, as I am informed by Dr. B. Daydon Jackson, Secretary of the Linnaean Society of London, show that the name is to be restricted to the Jamaica plant. Subsequent authors have confused it with species from other islands and from continental tropical America. The identity of *Cassia virgata* Sw. was established for me by Mr. William Fawcett at the British Museum of Natural History. *Cassia stricta* Schrank, from the illustration and the Jamaica habitat, appears referable here, but Schrank's description of the plant is not altogether conclusive; he says the root is annual.

18. *Chamaecrista Dussii* sp. nov.

Perennial, villous-pubescent, erect, simple, 5-9 dm. high, somewhat woody. Stipules narrowly lanceolate, strongly striate, 10-12 mm. long; leaves 5-7 cm. long; petiolar gland close to the lowest leaflets, scutelliform, sessile, slightly concave, nearly 1 mm. in diameter; leaflets about 17 pairs, linear, pubescent on both sides, 10-18 mm. long, 2-3 mm. wide, obtuse, mucronate, inequilateral, the midvein excentric, the lateral veins few and distant; peduncles 4-6 mm. long; sepals lanceolate, acuminate, pubescent, about 7 mm. long; petals obovate, 8-10 mm. long; pod linear, slightly curved, villous-pubescent, obliquely short-tipped, 3 cm. long, 5 mm. wide.

Guadeloupe and Martinique. Type from Trou-Vaillant, Parnasse, Martinique (*Père Duss 1121*).

19. *Chamaecrista Swartzii* (Wickstr.)

Cassia Swartzii Wikstr. Vetensk. Acad. Handl. 1825: 430. 1826.

Chamaecrista complexa Pollard, Field Col. Mus. Bot. 2: 47. 1900.

TYPE LOCALITY: St. Bart's.

DISTRIBUTION: Porto Rico; Vieques; Culebra; St. Thomas; St. Jan; Tortola; St. Croix; Saba; St. Bart's; St. Kitt's; Dominica; Guadeloupe; Grenada.

The species has been much confused with the Jamaican *C. glandulosa*.

20. **Chamaecrista polyadena** (DC.)

Cassia polyadena DC. Mém. Soc. Hist. Nat. Gen. 2: 132. 1824.

TYPE LOCALITY: Guadeloupe.

DISTRIBUTION: Guadeloupe; Dominica; Martinique; Barbadoes.

My identification of this species is based on my examination of the type, some years ago, in the Candolleian herbarium at Geneva, Switzerland. Notwithstanding the usually sessile petiolar gland and the relatively broader leaflets, I am not confident that this species is distinct from the preceding one.

21. **Chamaecrista pygmaea** (DC.)

Cassia pygmaea DC. Mém. Soc. Hist. Nat. Gen. 2: 131. 1824.

TYPE LOCALITY: Santo Domingo.

DISTRIBUTION: Hispaniola.

Referred by Bentham to *Cassia procumbens* L., which is a synonym of *C. nictitans* L. of continental North America, as previously indicated by me (Bull. Torrey Club 43: 463).

22. **CHAMAECRISTA PATELLARIA** (DC.) Greene, Pittonia 4: 32.
1899

Cassia patellaria DC.; Collad. Cass. 125. 1816.

TYPE LOCALITY: Cayenne.

DISTRIBUTION: Jamaica; all provinces of Cuba and on the Isle of Pines; continental tropical America.

ILLUSTRATION: Collad. Cass. *pl.* 16.

23. **CHAMAECRISTA FASCIATA** Britton, Bull. Torrey Club 37: 352.
1910

TYPE LOCALITY: Between Bath and Cuna-Cuna Gap, Jamaica.

DISTRIBUTION: Jamaica; Cuban provinces of Oriente, Camaguey, Santa Clara and Havana.

24. **CHAMAECRISTA AESCHINOMENE** (DC.) Greene, Pittonia 4: 32.
1899

Cassia aeschinomene DC.; Collad. Cass. 127. 1816.

Chamaecrista Millspaughii Pollard, Field Col. Mus. Bot. 2: 47.
1900.

Cassia mimosoides aeschynomene Benth. Trans. Linn. Soc. 27: 579. 1871.

TYPE LOCALITY: Santo Domingo.

DISTRIBUTION: Jamaica; all provinces of Cuba; Hispaniola; Porto Rico.

ILLUSTRATION: Collad. Cass. *pl.* 17.

25. CHAMAECRISTA SAVANNARUM Britton, Bull. Torrey Club 43: 463. 1916

TYPE LOCALITY: Near Siguanea, Isle of Pines, Cuba.

DISTRIBUTION: Savannas and pine-lands, Pinar del Rio and Isle of Pines, Cuba.

26. CHAMAECRISTA MICRANTHA Britton, Bull. Torrey Club 43: 463. 1916

TYPE LOCALITY: Near San Pedro, Isle of Pines, Cuba.

DISTRIBUTION: Pine-lands and savannas, Pinar del Rio and Isle of Pines, Cuba. Referred by Grisebach to *Cassia pygmaea* DC.

27. **Chamaecrista riparia** (HBK.)

Cassia riparia HBK. Nov. Gen. 6: 369. 1824.

TYPE LOCALITY: Banks of the Magdalena River near Mompox.

DISTRIBUTION: Jamaica; province of Havana, Cuba; Grand Cayman; Andros, New Providence and Eleuthera, Bahamas; northern South America and recorded from Central America.

The plant of the Bahamas was referred by me with some doubt (Bull. N. Y. Bot. Gard. 3: 443) to *Cassia aspera* Muhl., which it closely resembles, except in the petiolar gland. Cuban and Jamaican specimens differ from the Bahaman in having the gland somewhat longer-stalked.

I have not been able to study an authentic specimen of *C. riparia*. Bentham's record of it as West Indian was based upon a plant collected in Cuba by Liebmann, preserved in the Kew herbarium.

28. CHAMAECRISTA MIRABILIS Pollard, Proc. Biol. Soc. Wash. 15: 19. 1902

Cassia mirabilis Urban, Symb. Ant. 4: 276. 1905.

TYPE LOCALITY: Rio Piedras, Porto Rico.

DISTRIBUTION: Northern coastal plain of Porto Rico.

29. *Chamaecrista Chamaecrista* (L.)*Cassia Chamaecrista* L. Sp. Pl. 379. 1753.*Cassia diffusa* DC. Mém. Soc. Hist. Nat. Gen. 2: 130. 1824.*Cassia smaragdina* Macf. Fl. Jam. 1: 347. 1837.*Chamaecrista diffusa* Britton, Ann. Missouri Bot. Gard. 2: 41. 1915.

TYPE LOCALITY: Curaçao.

DISTRIBUTION: Bahamas; Jamaica; Cuba; ? Hispaniola; Porto Rico; St. Jan; St. Croix; St. Kitts; Guadeloupe; Grenada; Curaçao; Margarita.

ILLUSTRATIONS: Breyn, *pl.* 24; Schrank, Hort. Monac. *pl.* 33.The species has been much confused with the annual *C. nictitans* of eastern continental North America.The recognition of the plant of Curaçao as typical *Cassia Chamaecrista* brings *C. diffusa* into its synonymy.30. *Chamaecrista strigillosa* (Benth.)*Cassia strigillosa* Benth. Trans. Linn. Soc. 27: 581. 1871.

TYPE LOCALITY: Cuba.

DISTRIBUTION: Province of Oriente, Cuba; Santo Domingo (according to Benthham). Referred by Grisebach to *Cassia serpens* L.31. *Chamaecrista adenosperma* (Urban)*Cassia adenosperma* Urban, Symb. Ant. 5: 362. 1908.

TYPE LOCALITY: Sierra del Palo Quemado, Santo Domingo.

DISTRIBUTION: Known only from the type locality, and, to me, only from the description.

32. *Chamaecrista pedicellaris* (DC.)*Cassia pedicellaris* DC. Prodr. 2: 504. 1825.

TYPE LOCALITY: Santo Domingo.

DISTRIBUTION: Hispaniola.

33. *Chamaecrista Buchii* (Urban)*Cassia Buchii* Urban, Symb. Ant. 5: 361. 1908.

TYPE LOCALITY: Near Gonaives, Haiti.

DISTRIBUTION: Known only from the type locality and, to me, only from the description.

54. THE GENUS *LEUCOCROTON* GRISEB.

A Cuban genus, of which four species have been described.
L. Wrightii Griseb. is the type species.

A. Leaves pinnately veined.

Leaves chartaceous.

Pistillate inflorescence 1-flowered at the summit; staminate flowers racemose.

1. *L. Wrightii*.

Pistillate flowers racemose, the staminate glomerate-spicate.

2. *L. flavicans*.

Leaves coriaceous, linear-oblong or linear.

Leaves densely whitish-scurfy beneath.

Leaves strongly revolute-margined, not reticulate-veined beneath, coarsely reticulate-veined above.

3. *L. revolutus*.

Leaves slightly revolute-margined, strongly reticulate-veined beneath, finely reticulate-veined above.

4. *L. saxicola*.

Leaves glabrous on both sides.

Leaves mostly rounded and mucronulate at the apex, dull, 6-10 mm. wide.

5. *L. angustifolius*.

Leaves emarginate, shining, 3-5 mm. wide.

6. *L. linearifolius*.

B. Leaves palmately 5-veined.

7. *L. virens*.

1. *LEUCOCROTON WRIGHTII* Griseb. Abh. Kön. Gesell. Wiss. Götting. 9: 21. 1860

Woodlands and banks of streams, Oriente; Pinar del Rio.

2. *LEUCOCROTON FLAVICANS* Muell. Arg. in DC. Prodr. 15²: 757. 1866

L. flavicans latifolius Muell. Arg. loc. cit. 1866.

L. flavicans angustifolius Muell. Arg. loc. cit. 1866.

Serpentine hillsides, Matanzas, Havana. The locality of C. Wright's no. 1994 is not recorded.

3. *LEUCOCROTON REVOLUTUS* Wright; Sauvalle, Anales Acad. Habana 7: 154. 1870

Known only from the type locality between La Mulata and La Palme, Pinar del Rio.

4. *Leucocroton saxicola* sp. nov.

A shrub, 1-3.3 m. high, much branched, the twigs short and stout. Leaves coriaceous or subcoriaceous, narrowly oblong or oblanceolate, 3-11 cm. long, 2 cm. wide or less, rounded or emarginate and apiculate at the apex, narrowed at the base, finely

reticulate-veined, glabrous, and with impressed midvein above, strongly reticulate-veined, minutely scurfy and with prominent midvein beneath, the petioles 3–6 mm. long; staminate flowers racemose-spicate in the upper axils, the inflorescence 2–3 cm. long; bracts lanceolate, acute, about 1.5 mm. long; pedicels 1–2 mm. long; buds subglobose, lepidote, 1 mm. in diameter.

Rocky banks and hillsides, mountains of northern Oriente. Type collected at Arroyo del Medio, above the falls, 450–550 m. alt. (*Shafer 3466*).

Similar to *L. revolutus*, but the venation of the leaves is quite different. In *L. revolutus* only the pistillate inflorescence is known; in *L. saxicola* only the staminate.

5. *Leucocroton angustifolius* sp. nov.

A much-branched, spreading shrub, about 6 dm. high, the twigs bearing distant leaf-scars. Leaves scattered, coriaceous, glabrous, linear or linear-oblong, 5–10 cm. long, 13 mm. wide or less, revolute-margined, rounded and mucronulate or emarginate at the apex, narrowed at the base, the midvein impressed above, prominent beneath, the primary lateral veins numerous, diverging at nearly right angles from the midvein, both surfaces reticulate-veined, the petioles 4–6 mm. long; pistillate flowers solitary at the ends of clustered, terminal, slender, scaly, bracted peduncles 2–3 cm. long; bracts lanceolate, numerous, acute, ascending, 1.5 mm. long; calyx-segments lanceolate, similar to the bracts; ovary depressed-globose, obtusely 3-lobed, lepidote; styles stout, recurved.

Rio Guayabo, above the falls, Oriente, 450–550 m. alt. (*Shafer 3626*).

6. *Leucocroton* (?) *linearifolius* sp. nov.

A much-branched shrub about 6 dm. high, the twigs short, stiff, covered by leaf-scars. Leaves densely clustered at the ends of the twigs, coriaceous, glabrous, linear, 3–6 cm. long, 3–5 mm. wide, shining on both sides, emarginate at the apex, gradually narrowed to the base, short-petioled, the midvein impressed above, prominent beneath, the lateral veins very numerous and close together, prominent on both surfaces, diverging nearly at right angles to the midvein, simple, or forked; staminate flowers few, in short, solitary slender-peduncled racemes shorter than the leaves, the pedicels filiform, 2 mm. long, the bractlets linear-lanceolate; bud of the staminate flower globose, 1 mm. in diameter.

Rocky bank of river at Camp La Barga, Oriente, 450 m. alt. (*Shafer 4144*).

7. *LEUCOCROTON VIRENS* Griseb. Nachr. Gesell. Wiss. Götting.
1865: 175

Mountain woodlands, Oriente. The foliage of this species is very different from that of the others.

55. PASSIFLORA IN CUBA

Type species: *Passiflora incarnata* L.

- A. Flowers subtended by 3 large foliaceous bracts [GRANDILLA].
Bracts united below the middle; leaves ovate, entire, membranous. 1. *P. maliformis*.
Bracts distinct to the base. 2. *P. quadrangularis*.
Branches sharply 4-angled; leaves ovate, entire, membranous. 3. *P. laurifolia*.
Branches not 4-angled.
Leaves entire, subcoriaceous, glabrous. 4. *P. pedata*.
Leaves lobed or parted. 5. *P. pallens*.
Leaves pedately parted, membranous, pubescent, the segments serrate.
Leaves obtusely 3-lobed, glabrous, the lobes entire.
- B. Flowers subtended by small or pectinate-pinnatifid bracts, or bractless.
1. Flower-tube cylindric or cylindric-campanulate; corona not plicate [MURUCUJA].
Leaves entire, ovate to elliptic. 6. *P. cuprea*.
Leaves lobed or subtruncate.
Leaves 2-lobed or subtruncate.
Leaves membranous, not reticulate-veined, deeply 2-lobed, the lobes acute. 7. *P. nipensis*.
Leaves coriaceous, reticulate-veined, the lobes obtuse or rounded, or apex subtruncate. 8. *P. cubensis*.
Leaves 3-lobed at the apex. 9. *P. Shaferi*.
2. Flower-tube short or none; corona longitudinally plicate [PLECTROSTEMMA].
- A. Petals none.
Leaves 3-divided, the segments stalked, 3-cleft. 10. *P. Berteriana*.
Leaves lobed or entire. 11. *P. pallida*.
- B. Petals present.
- a. Flowers subtended by pinnatifid bracts.
Leaves membranous, flaccid. 12. *P. foetida*.
Leaves chartaceous.
Plant densely velvety-pubescent. 13. *P. gossypifolia*.
Plants glabrous, usually with some stalked glands. 14. *P. pseudociliata*.
- b. Bracts small, not pectinate-pinnatifid.
* Peduncles elongated, 1-flowered, longer than the leaves. 15. *P. penduliflora*.

** Peduncles much shorter than the leaves.

Leaves 2-lobed, mostly broader than long.

Flowers solitary, slender-peduncled, 3-4 cm.

broad; fruit 3-5 cm. in diameter.

16. *P. rubra*.

Flowers clustered in the axils, 1.5-2 cm. broad,

very short-peduncled, the pedicels slender;

fruit about 8 mm. in diameter.

17. *P. sexflora*.

Leaves entire or bluntly 3-lobed, longer than broad.

Leaves oblong or oblong-lanceolate, entire,

rounded at the base.

18. *P. multiflora*.

Leaves broadly ovate, obtusely 3-lobed, mostly

cordate at the base.

19. *P. holosericea*.

C. Published species not grouped.

Leaves ovate to elliptic, dentate.

20. *P. dasyadenia*.

D. Known only from foliage. Leaves deeply 3-lobed, the lobes dentate.

21. A plant of the Isle of Pines.

1. PASSIFLORA MALIFORMIS L. Sp. Pl. 956. 1753

TYPE LOCALITY: Near Port de Paix, Santo Domingo.

DISTRIBUTION: Oriente, collected by Wright:—Hispaniola to Barbadoes; Jamaica; South America. Perhaps not indigenous in Cuba.

2. PASSIFLORA QUADRANGULARIS L. Syst. Ed. 10, 1248. 1759

TYPE LOCALITY: Jamaica.

DISTRIBUTION: Uncommon at Santiago de las Vegas (*Van Hermann 616*):—Native of Nicaragua; widely cultivated in tropical America, and locally spontaneous.

3. PASSIFLORA LAURIFOLIA L. Sp. Pl. 956. 1753

TYPE LOCALITY: Surinam.

DISTRIBUTION: Thicket, upper valley of the Rio Navas, Oriente (*Shafer 4411*):—native from St. Thomas and St. Jan to Trinidad and South America. Spontaneous after cultivation in Hispaniola and Jamaica.

4. PASSIFLORA PEDATA L. Sp. Pl. 960. 1753

TYPE LOCALITY: Santo Domingo.

DISTRIBUTION: Woods and thickets, Santa Clara, Pinar del Rio:—Hispaniola; northern South America.

5. *PASSIFLORA PALLENS* Poepp.; Masters in Mart. Fl. Bras. 13¹: 567. *pl.* 128, *f.* 4. 1872

TYPE LOCALITY: Cuba.

DISTRIBUTION: Thickets, Havana, Pinar del Rio:—Florida; Venezuela.

Recorded by Grisebach and by Sauvalle as *P. stipulata* Aubl.

6. *PASSIFLORA CUPREA* L. Sp. Pl. 955. 1753

TYPE LOCALITY: New Providence, Bahamas.

DISTRIBUTION: Near Baracoa, Oriente; cays of northern Camaguey:—Bahamas.

7. *Passiflora nipensis* sp. nov.

Glabrous, glandless, slender, 8 dm. long or longer. Leaves cuneate, 2-lobed to the middle or beyond, 1.5–3 cm. long, rather strongly 3-nerved, the nerves impressed above, prominent beneath, excurrent, the secondary venation sparse and slender, the lobes lanceolate, acute, the slender petioles 2.5–5 mm. long; tendrils filiform, 2–4 cm. long; peduncles solitary or geminate in the axils, 10–14 mm. long; fruit globose, dark blue, about 1.5 cm. in diameter; seeds oblong, transversely ridged, about 3 mm. long.

Open dry situations in pine lands, Sierra Nipe near Woodfred, Oriente, 500–650 m. alt. (*Shafer* 3554).

8. *PASSIFLORA CUBENSIS* Urban, Symb. Ant. 3: 326. 1902

Passiflora coriacea A. Rich. in Sagra, Hist. Cub. 10: 288. 1845.
Not Juss.

TYPE LOCALITY: Cuba.

DISTRIBUTION: Serpentine barrens, savannas and coastal thickets, Oriente, Camaguey, Santa Clara, Havana. Endemic.

Referred by Grisebach to *P. murucuja* L. and to *P. oblongata* Sw. The species is variable in leaf-form.

9. *Passiflora Shaferi* sp. nov.

A glabrous vine, about 2 m. long. Leaves thin, elliptic-obovate, 4–5 cm. long, bluntly and shallowly 3-lobed at the apex, rounded or obtuse at the base, strongly 3-nerved, each nerve extending to a lobe and scarcely, if at all, excurrent, with 2 weaker short basal nerves, both surfaces reticulate-veined, the upper

surface somewhat shining, the lower dull, the glandless petioles 4-7 mm. long; peduncles mostly 2 together in the axils, 1-2 cm. long; bractlets subulate, 1.5-2 mm. long; flowers about 3 cm. long, red, the tube cylindric, 1-1.5 cm. long; fruit subglobose, about 1 cm. in diameter.

Between Navas and Camp Buena Vista, Oriente, at 650 m. alt. (*Shafer 4466*).

10. *PASSIFLORA BERTERIANA* Balb.; DC. Prodr. 3: 325. 1828

TYPE LOCALITY: Santo Domingo.

DISTRIBUTION: Recorded by Grisebach as collected in Cuba by Wright:—Santo Domingo.

11. *PASSIFLORA PALLIDA* L. Sp. Pl. 955. 1753

Passiflora minima L. Sp. Pl. 959. 1753.

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

Passiflora hirsuta L. Sp. Pl. 958. 1753.

Passiflora angustifolia Sw. Prodr. 97. 1788.

Passiflora hederacea Cav. Diss. 10: 448. 1790.

TYPE LOCALITY: Santo Domingo.

DISTRIBUTION: Banks, thickets and hillsides, all provinces and Isle of Pines:—Florida; Bermuda; West Indies and tropical continental America. The many races differ in leaf-form and pubescence.

12. *PASSIFLORA FOETIDA* L. Sp. Pl. 959. 1753

TYPE LOCALITY: Dominica.

DISTRIBUTION: Thickets and roadsides, Oriente, Havana, Pinar del Rio, Isle of Pines:—West Indies; continental tropical America; Old World tropics.

13. *PASSIFLORA GOSSYPIFOLIA* Desv. in Hamilt. Prodr. Pl. Ind. Occ. 48: 1825

P. foetida gossypifolia Masters in Mart. Fl. Bras. 13¹: 582. 1872.

TYPE LOCALITY: Not cited, presumably West Indian.

DISTRIBUTION: Dry hillsides, southern Oriente:—continental tropical America.

14. *Passiflora pseudociliata* sp. nov.

? *Passiflora ciliata polyadena* Griseb. Cat. Pl. Cub. 285. 1866.

Herbaceous, glabrous, 2 m. long or less. Leaves membranous, but not flaccid, variously 3-lobed, or sometimes 5-lobed, 2–8 cm. broad, bearing few or many slender-stalked glands, or glandless, the lobes oblong, acute or obtuse, few-toothed or entire, the slender petioles 1–5 cm. long; peduncles solitary in the axils, longer than the petioles, sometimes nearly as long as the leaves; bracts pectinate-pinnatifid; flowers blue, 4–6 cm. broad; petals narrowly oblong, blunt; crown-processes filiform, much shorter than the petals; fruit inflated, bladdery, ellipsoid or subglobose, red, 3–6 cm. long, short-stipitate, longer than the bracts.

Barren hillsides and coastal thickets, Camaguey, Santa Clara, Matanzas, Havana, Pinar del Rio.

Type from rocky soil in savanna near Camaguey (*Britton & Cowell 13155*).

Referred by Grisebach to *P. ciliata* Ait., and by Combs to *P. foetida* L.

Specimens from the Sierra Nipe, Oriente, with large leaves and fruit (*Shafer 3081, 3618*) are doubtfully referred to *P. ciliata* Ait., but they do not show the bracts, which, in *P. ciliata* of Jamaica, are as long as the fruit or longer.

15. *PASSIFLORA PENDULIFLORA* Bert.; DC. Prodr. 3: 326. 1828

TYPE LOCALITY: Jamaica.

DISTRIBUTION: Coastal woods and thickets, Oriente, Camaguey:—Jamaica.

16. *PASSIFLORA RUBRA* L. Sp. Pl. 956. 1753

TYPE LOCALITY: Martinique.

DISTRIBUTION: Banks and thickets at lower and middle elevations, Oriente, Camaguey, Santa Clara, Matanzas, Havana:—West Indies; continental tropical America.

The *Passiflora pubescens* HBK., recorded as Cuban by A. Richard, is, presumably, this species.

17. *PASSIFLORA SEXFLORA* Juss. Ann. Mus. Paris 6: 110. pl. 37, f. 1. 1805

TYPE LOCALITY: Santo Domingo.

DISTRIBUTION: Thickets and hillsides, Oriente, Santa Clara:—

Florida; Jamaica; Hispaniola; Porto Rico; recorded from St. Kitts; Mexico and Central America.

18. *PASSIFLORA MULTIFLORA* L. Sp. Pl. 956. 1753

TYPE LOCALITY: Near Port de Paix, Santo Domingo.

DISTRIBUTION: Rocky banks and coastal thickets, Oriente, Camaguey, Santa Clara, Pinar del Rio, Isle of Pines:—Florida, Bahamas; Hispaniola to Tortola; recorded from Costa Rica.

19. *PASSIFLORA HOLOSERICEA* L. Sp. Pl. 958. 1753

Passiflora reticulata C. Wright; Sauvalle, Anales Acad. Habana 6: 96. 1869.

TYPE LOCALITY: Vera Cruz [Mexico].

DISTRIBUTION: Rocky hillsides and coastal thickets, Matanzas, Pinar del Rio:—Mexico.

20. *PASSIFLORA DASYADENIA* Urban, Symb. Ant. 3: 328. 1902

TYPE LOCALITY: Near El Aji [Oriente].

DISTRIBUTION: Type locality and collected also on the Sierra de Anafe, Pinar del Rio (*Wilson & Leon 11534*); flowers of both the Oriente and the Pinar del Rio plant are unknown.

21. *PASSIFLORA*

A high climbing, sparingly pubescent vine. Petioles slender, 2-4 cm. long, bearing 2 small glands below the middle; leaves subchartaceous, deeply 3-lobed, subtruncate at base, 10 cm. long or less, the oblong lobes 1-3 cm. wide, acute, dentate, loosely reticulate-veined.

Coastal plain, San Juan, Isle of Pines (*Britton & Wilson 15476*).

Passiflora incarnata L. of eastern continental North America is recorded by A. Richard (Sagra, Hist. Cub. 10: 289) as having been found in Cuba, but I have no other evidence of its occurrence there.

56. *RONDELETIA* IN CUBA

Type species: *Rondeletia americana* L.

A. Capsule globose to globose-pyriform.

1. Inflorescence terminal or terminal and axillary.

a. Twigs strigose.

Cymes several-many-flowered; leaves elliptic to ovate-elliptic, 3-8 cm. long.

1. *R. odorata*.

- Peduncles 1-3-flowered; leaves oblong, 5-20 mm. long.
- b. Twigs glabrous or puberulent.
- * Pedicels very slender or filiform.
- † Leaves small, 1-2.5 cm. long; peduncles 1- to few-flowered.
- Calyx-lobes dilated above.
- Leaves ovate, rounded or subcordate at the base; calyx-lobes little dilated.
- Leaves oblong, oval or obovate, narrowed or obtuse at the base; calyx-lobes much dilated.
- Wholly glabrous; petioles 1-2 mm. long.
- Petioles ciliate, 4-7 mm. long.
- Calyx-lobes linear or subulate, not dilated.
- Foliage puberulent.
- Foliage glabrous.
- †† Leaves up to 7 cm. long; inflorescence several- to many-flowered.
- ** Pedicels stout, short.
- † Leaves petioled.
- Capsule subglobose or short-pyriform.
- Corolla densely silky-pubescent.
- Corolla glabrous or with a few scattered hairs.
- Calyx-teeth deltoid, minute.
- Calyx-teeth ovate or oblong.
- Petioles slender; capsule subglobose.
- Petioles stout; capsule subpyriform.
- Capsule oblong, about twice as long as thick; leaves elongated, petioled.
- †† Leaves sessile, oblong-oblongeolate; capsule short-pyriform.
2. Inflorescence axillary or lateral.
- a. Peduncles elongated, often as long as the leaves or longer.
- Leaves sessile, cordate, 5-8 cm. long.
- Leaves petioled, 3-5 cm. long.
- Petioles about 2 mm. long.
- Petioles 8-12 mm. long.
- Stipules triangular, obtuse; leaves obtuse or rounded at the base.
- Stipules linear-subulate, broadened below; leaves rounded at the base.
- b. Peduncles short, much shorter than the leaves.
- * Leaves membranous to chartaceous; inflorescence mostly few- to several-flowered, rarely 1-flowered.
2. *R. microphylla*.
3. *R. Shaferi*.
4. *R. peduncularis*.
5. *R. pachyphylla*.
6. *R. pedicellaris*.
7. *R. alaternoides*.
8. *R. subglabra*.
9. *R. brachycarpa*.
10. *R. stellata*.
11. *R. angustata*.
12. *R. canellaefolia*.
13. *R. calcicola*.
14. *R. yamuriensis*.
15. *R. correifolia*.
16. *R. Lindeniana*.
17. *R. nimanimae*.
18. *R. Leoni*.

- † Leaves faintly reticulate-veined beneath or not reticulate-veined.
 Leaves glabrous, or merely puberulent, the venation obscure. 19. *R. chamaebuxifolia*.
 Leaves densely strigose-pubescent beneath, pinnately veined. 20. *R. intermixta*.
 †† Leaves strongly reticulate-veined beneath.
 ‡ Leaves ovate to elliptic.
 Leaves rounded at the apex.
 Calyx-lobes triangular; leaves 4 cm. long or less, the petioles stout. 21. *R. lomensis*.
 Calyx-lobes ovate-oblong; leaves 2 cm. long or less, the petioles slender. 22. *R. baracoensis*.
 Leaves acute or acutish at the apex; inflorescence subcapitate.
 Inflorescence subsessile. 23. *R. rigida*.
 Inflorescence manifestly peduncled. 24. *R. nipensis*.
 †† Leaves oblong.
 Calyx-lobes linear, linear-lanceolate or ovate, acute or acutish.
 Leaves 1 cm. long or less. 25. *R. Rugelii*.
 Leaves 1.5–6 cm. long. 26. *R. Combsii*.
 Calyx-lobes broadly ovate, rounded or obtuse.
 Leaves tomentulose beneath. 27. *R. camarioca*.
 Leaves strigose on the veins beneath. 28. *R. insularis*.
 ** Leaves coriaceous, mostly small; peduncles mostly 1-flowered.
 Leaves elliptic to orbicular, obtuse or rounded.
 Leaves silvery-puberulent beneath. 29. *R. savannarum*.
 Leaves tomentose beneath.
 Leaves elliptic, 1.5–2 cm. long; calyx-lobes linear-lanceolate, acuminate. 30. *R. venosa*.
 Leaves oval or orbicular, 5–15 mm. long; calyx-lobes oblong, obtuse. 31. *R. hypoleuca*.
 Leaves oblong, acute or acutish.
 Leaves glabrous, green both sides. 32. *R. vacciniifolia*.
 Leaves white-tomentulose beneath, dark-green and glabrous above. 33. *R. bicolor*.
 B. Capsule linear-oblong, 2 cm. long; inflorescence terminal. 34. *R. tinifolia*.
 C. Species not grouped. 35. *R. camagueyensis*.

I. RONDELETIA ODORATA Jacq. Enum. Pl. Carib. 16. 1760

R. speciosa Lodd. Bot. Cab. 19: pl. 1893. 1832.

TYPE LOCALITY: Coastal thickets, Havana [Jacquin, Sel. Stirp. 59].

DISTRIBUTION: Hillsides and thickets at lower and middle elevations, Santa Clara, Matanzas, Havana, Pinar del Rio. Recorded by Richard from Oriente. Recorded from Mexico. Cultivated for ornament.

2. *RONDELETIA MICROPHYLLA* Griseb. Cat. Pl. Cub. 127. 1866

TYPE LOCALITY: Western Cuba.

DISTRIBUTION: River-banks, Pinar del Rio. Endemic.

The leaves are sometimes larger than those of the type specimens, attaining a length of 3 cm.

3. *RONDELETIA SHAFERI* Urban & Britton; Urban, Symb. Ant. 7: 398. 1912

TYPE LOCALITY: Barren savannas near Holguín, Oriente.

DISTRIBUTION: Known only from the type locality.

Dr. Shafer's notes indicate that the plant grows along water-courses.

4. *RONDELETIA PEDUNCULARIS* A. Rich. in Sagra, Hist. Cub. 11: 14. 1850

TYPE LOCALITY: Vuelta de Abajo.

DISTRIBUTION: Rocky banks and beds of streams, Oriente, Pinar del Rio. Endemic.

5. *RONDELETIA PACHYPHYLLA* Krug & Urban; Urban, Symb. Ant. 1: 419. 1899

TYPE LOCALITY: Cuba.

DISTRIBUTION: Rocky stream-beds, mountains of northern Oriente. Endemic.

Recorded by Grisebach as *R. alaternoides* A. Rich. The inflorescence is both terminal and axillary.

6. *RONDELETIA PEDICELLARIS* C. Wright; Sauvalle, Anales Acad. Habana 6: 102, 121. 1869

TYPE LOCALITY: Vicinity of Trinidad.

DISTRIBUTION: Cliffs and rocky hillsides, southern Santa Clara. Endemic.

7. RONDELETIA ALATERNOIDES A. Rich. in Sagra, Hist. Cub. 11:
13. 1850

TYPE LOCALITY: Mountains near Santiago [Oriente].

DISTRIBUTION: Known only from the type locality.

Urban states (Symb. Ant. 1: 419) that the inflorescence of this species is terminal, not axillary as first described.

8. RONDELETIA SUBGLABRA Krug & Urban; Urban, Symb. Ant.
1: 418. 1899

TYPE LOCALITY: Near Santiago, at 1,400 m. elevation [Oriente].

DISTRIBUTION: Mountains of Oriente. Endemic.

9. RONDELETIA BRACHYCARPA (Griseb.) C. Wright; Sauvalle,
Anales Acad. Habana 6: 122. 1869

Ferdinandea brachycarpa Griseb. Mem. Am. Acad. II. 8: 505.
1862.

TYPE LOCALITY: Thickets near Santa Catalina [Oriente].

DISTRIBUTION: Thickets and hillsides, Oriente, Camaguey, Santa Clara, Havana, Pinar del Rio:—Hispaniola.

Referred by Combs to *R. trifolia* Jacq.

10. RONDELETIA STELLATA (Griseb.) C. Wright; Sauvalle, Anales
Acad. Habana. 6: 122. 1869

Ferdinandea stellata Griseb. Mem. Am. Acad. II. 8: 505. 1862.

TYPE LOCALITY: Pine-lands near Monte Verde [Oriente].

DISTRIBUTION: Mountains of northern Oriente. Endemic.

11. RONDELETIA ANGUSTATA C. Wright; Sauvalle, Anales Acad.
Habana 6: 122. 1869

Ferdinandea angustata C. Wright; Griseb. Cat. Pl. Cub. 127.
1866.

TYPE LOCALITY: In bogs near Toscano.

DISTRIBUTION: Arroyos and barrens, Santa Clara, Matanzas, Pinar del Rio. Endemic.

12. *Rondeletia canellaefolia* sp. nov.

A glabrous shrub about 2.5 m. high, the twigs rather stout. Leaves coriaceous, elliptic-obovate or elliptic-oblongate, oppo-

site or verticillate, 10 cm. long or less, 1.5–3 cm. wide, dark green, shining above, dull beneath, obtuse or acute at the apex, cuneate at the base, the midvein prominent, the lateral veins few, distant, slender, the petioles 5–15 mm. long; inflorescence terminal and in the upper axils, few–several-flowered; peduncles 1.5–5 cm. long; pedicels short and stout; bracts triangular, minute; calyx 3–4 mm. long, its lobes foliaceous, ovate, obtuse, 1–1.5 mm. long; corolla glabrous, about 4 mm. long (immature); capsule pyriform, 1–1.5 cm. long.

Woods and on cliffs, Sierra Nipe, near Woodfred, Oriente, 450–550 m. alt. Type, *Shafer 3297*. In foliage and capsules similar to *R. stellata*, but that has minute calyx-lobes.

13. *RONDELETIA CALCICOLA* Britton, Bull. Torrey Club 43: 467.
1916

TYPE LOCALITY: Coe's Camp, Ensenada de Sigüanea, Isle of Pines.

DISTRIBUTION: Known only from the type locality.

14. *Rondeletia yamuriensis* sp. nov.

A small tree, about 4 m. high, glabrous throughout. Leaves coriaceous, narrowly oblong-ob lanceolate, 6–9 cm. long, 1–2 cm. wide, sessile, acute or obtuse at the apex, narrowed at the base, opposite or verticillate in 3's, the midvein rather prominent, the lateral veins few and slender; inflorescence terminal and also in the uppermost axils; peduncles rather slender, 6 cm. long or less; fruiting pedicels 5–10 mm. long; capsule globose-pyriform, about 1 cm. long.

Between Yamuri Arriba and Bermejil, Oriente (*Shafer 8439*).

15. *RONDELETIA CORREIFOLIA* Griseb. Cat. Pl. Cub. 129. 1866

TYPE LOCALITY: Western Cuba.

DISTRIBUTION: Pine-lands and savannas, Pinar del Rio and Isle of Pines. Endemic. A virgate shrub, up to 2 m. high, the large white flowers fragrant.

16. *RONDELETIA LINDENIANA* A. Rich. in Sagra, Hist. Cub. 11:
13. 1850

TYPE LOCALITY: Mountains near Santiago [Oriente].

DISTRIBUTION: Mountains of Oriente. Endemic. Recorded by Grisebach as *R. buxifolia* Vahl, and, doubtfully, by Sauvalle, as *R. umbellulata* Sw.

17. *RONDELETIA NIMANIMAE* Krug & Urban; Urban, Symb. Ant.
1: 418. 1899

TYPE LOCALITY: Near Nimanima, at 800 m. alt. [Oriente].

DISTRIBUTION: Known only from the type locality.

18. *Rondeletia Leoni* sp. nov.

A shrub or small tree up to 3 m. high, the slender young twigs, the petioles and the inflorescence appressed-pubescent with short, whitish hairs. Leaves elliptic to obovate, 3–8 cm. long, subcoriaceous, acute, short-acuminate, or some of them obtuse at the apex, narrowed or cuneate at the base, flat, or the margins somewhat revolute when old, densely pubescent with appressed hairs when young, glabrous, or sparingly pubescent on the veins beneath when old, inconspicuously reticulate-veined, the slender petioles 12 mm. long or less; stipules linear-subulate with a broadened base, pubescent, 3–4 mm. long; inflorescence axillary or lateral, 4–6 cm. long, 1–few-flowered, sometimes with a pair of small, leaf-like bracts; pedicels nearly filiform, 1–2 cm. long; bractlets linear-subulate; calyx ovoid-campanulate, densely canescent, its lobes linear or linear-spatulate, 3–4 mm. long; corolla densely white-pubescent without, its tube slender, 10–12 mm. long, cylindric, slightly expanded above, its lobes oblong-orbicular, rounded, deep purple above, 2.5–3 mm. long; capsule subglobose, 4–5 mm. in diameter.

Sancti Spiritus Mountains, Santa Clara; type from Sierra del Caballete (*Leon & Clement 6560*).

19. *RONDELETIA CHAMAEBUXIFOLIA* Griseb. Cat. Pl. Cub. 128.
1866

Rondeletia avenia C. Wright; Sauvalle, Anales Acad. Habana 6:
121. 1869.

TYPE LOCALITY: Western Cuba.

DISTRIBUTION: Known only from the type locality, this not definitely recorded.

20. *Rondeletia intermixta* sp. nov.

A shrub, 1.6 m. high, the young twigs densely strigose-pubescent. Stipules triangular-ovate, pubescent, acute, persistent, spreading, about 2 mm. long; leaves oblong, chartaceous, 3–6 cm. long, acute at both ends, dark green and glabrous above, pale green and densely pubescent beneath, the midvein rather promi-

ment, the lateral veins few, the slender petioles 8–15 mm. long; inflorescence axillary, short-peduncled, few-several-flowered, densely pubescent; bractlets ovate, acute, about 1 mm. long; calyx-teeth ovate, short; capsule globose, about 3 mm. in diameter, pubescent.

Gran Piedra, Oriente, at about 1,500 m. alt. (*Shafer 9039*). Apparently the same as a part of *C. Wright 1266*, recorded by Griesbach as *Rondeletia Poitaei* Griseb., but that name (Griseb. Fl. Br. W. I. 328) is a synonym of *Stevensia buxifolia* Poit., a plant known only from Hispaniola.

21. *RONDELETIA LOMENSIS* Urban, Symb. Ant. 7: 394. 1912

TYPE LOCALITY: Dry serpentine hill, Loma Santa Teresa, near El Yunque, Oriente.

DISTRIBUTION: Known only from the type locality.

Dr. Shafer's notes describe this as a shrub about 2.6 m. high with white flowers; the corollas are not shown in the specimens.

22. *Rondeletia baracoensis* sp. nov.

Twigs slender, densely whitish-pubescent when young. Stipules triangular-ovate, acute, pubescent, about 2 mm. long; leaves chartaceous, elliptic, 2 cm. long or less, rounded or obtuse at the apex, narrowed or obtuse at the base, glabrous and obscurely veined above, whitish-tomentulose and reticulate-veined beneath with the primary venation prominent, the petioles 3–5 mm. long; peduncles opposite, rather stout, 1–3-flowered, 3–13 mm. long; bractlets lanceolate, pubescent, somewhat shorter than the calyx; calyx 3 mm. long, its lobes ovate or ovate-oblong, obtuse, one half as long as the tube; corolla-bud densely white-pubescent.

Vicinity of Baracoa (*Pollard, Palmer & Palmer 245*).

23. *RONDELETIA RIGIDA* Griseb. Mem. Am. Acad. II. 8: 505.
1862

TYPE LOCALITY: La Madelina [Oriente].

DISTRIBUTION: Known only from the type locality.

24. *RONDELETIA NIPENSIS* Urban, Symb. Ant. 7: 393. 1912.

TYPE LOCALITY: Sierra Nipe, near Woodfred, Oriente, in pine-lands, 500–650 m. alt.

DISTRIBUTION: Pine-lands and deciduous woods of the Sierra Nipe, Oriente.

Dr. Shafer's notes show this to be a shrub about 1.3 m. high, with white flowers.

25. RONDELETIA RUGELII Urban, Symb. Ant. 7: 397. 1912

Rondeletia Poitaei microphylla Griseb. Cat. Pl. Cub. 128. 1866.

TYPE LOCALITY: near Matanzas.

DISTRIBUTION: Known definitely only from the type locality.

Rugel's label indicates that this is a shrub growing in rocks. The species is related to the following one. Grisebach considered the plant to be the same as *R. Berteriana* A. Rich. (not DC.), which was collected at La Cabana, Havana. *R. Berteriana* DC., of Hispaniola, is clearly different.

26. RONDELETIA COMBSII Greenm. Trans. Acad. St. Louis 7: 427,
pl. 34. 1897

TYPE LOCALITY: Calicita [Santa Clara].

DISTRIBUTION: Hillsides, cliffs and rocky shores, Santa Clara; Havana. Endemic.

Plants with identical foliage have calyx-lobes ovate or lanceolate; Dr. Greenman's original description indicates that they may even be linear. A fruiting specimen from Bahia Honda, Pinar del Rio (*Wilson 9409*), is doubtfully referred to this species.

27. RONDELETIA CAMARIOCA C. Wright; Sauvalle, Anales. Acad.
Habana 6: 102. 1869

TYPE LOCALITY: Savannas of Camarioca [Matanzas].

DISTRIBUTION: Serpentine barrens and savannas, in dry soil, Camaguey; Santa Clara; Matanzas. Endemic.

28. *Rondeletia insularis* sp. nov.

A much-branched shrub, about 2 m. high, the twigs densely appressed-pubescent. Stipules triangular-ovate, connate, pubescent, persistent, 2-3 mm. long; leaves gray-green, oblong or oblong-obovate, chartaceous, 3 cm. long or less, 7-10 mm. wide, glabrous and very obscurely veined above, delicately reticulate-veined and strigillose beneath, the stout petioles about 1.5 mm. long; peduncles solitary in the axils, stout, about as long as the petioles, 1-flowered, pubescent; bractlets ovate, acute, 1 mm. long; capsule globose, densely puberulent, 4-5 mm. in diameter; calyx-lobes ovate-oblong, obtuse, 1 mm. long.

Vicinity of Pueblo Romano, Cayo Romano, Camaguey (*Shafer 2444*).

29. *Rondeletia savannarum* sp. nov.

A shrub, about 2 m. high, the twigs densely appressed-pubescent. Stipules triangular, acute, finely pubescent, 1–1.5 mm. long; leaves oblong to oblong-elliptic, 2 cm. long or less, 6–10 mm. wide, coriaceous, obtuse at the apex, narrowed at the base, glabrous, dark green and obscurely veined above, silvery-puberulent beneath with the few veins rather prominent, the petioles about 1.5 mm. long; flowers solitary in the axils; peduncles stout, 2–3 mm. long; calyx-teeth linear with the base broadened, 3 mm. long, about as long as the calyx-tube; corolla-bud densely pubescent; capsule globose, densely puberulent, 4 mm. in diameter.

Barren savannas, southeast of Holguin, Oriente (*Shafer 1230*, type; *2933*).

30. *RONDELETIA VENOSA* Griseb. Cat. Pl. Cub. 128. 1866

TYPE LOCALITY: Near San Marcos, Bahia Honda [Pinar del Rio].

DISTRIBUTION: Known only from the type locality.

31. *RONDELETIA HYPOLEUCA* Griseb. Cat. Pl. Cub. 128. 1866

TYPE LOCALITY: Eastern Cuba, near Baracoa.

DISTRIBUTION: Rocky situations, Oriente. Endemic.

A plant with orbicular leaves 5–7 mm. long, collected in a rocky thicket between Camp La Barga and Camp San Benito at about 1,000 m. alt. (*Shafer 4121*), is referred to this species with hesitation.

32. *Rondeletia vacciniifolia* sp. nov.

A much-branched shrub 0.3–1.3 m. high, the young twigs densely appressed-pubescent. Stipules triangular, acute, connate, pubescent, 1.5–2 mm. long; leaves oblong, coriaceous, 6–12 mm. long, acute at both ends, or the apex obtuse and mucronate, glabrous on both sides or sparingly pubescent on the midvein beneath, the lateral venation obscure, the stout, pubescent petioles 1.5–3 mm. long; flowers solitary in the upper axils, the stout, pubescent peduncles about as long as the petioles; bractlets triangular-ovate, acute; calyx-teeth linear, 2–3 mm. long; capsule globose, pubescent, 5 mm. in diameter, reddish.

Rocky situations, mountains of northern Oriente. Type from rocky bank of river, vicinity of Camp San Benito at 900 m. alt. (*Shafer 4090*).

33. *Rondeletia bicolor* sp. nov.

A shrub about 1.7 m. high, the twigs ascending, slender, densely short-pubescent when young. Stipules triangular-lanceolate, rather abruptly attenuate from a broad base, short-pubescent, about 3 mm. long; leaves oblong or oblong-ob lanceolate, coriaceous, 2–3 cm. long, acute or some of them obtuse at the apex, narrowed at the base, dark green, glabrous and very obscurely veined above, white tomentulose and prominently veined beneath, the pubescent petioles 2–4 mm. long; peduncles axillary, pubescent, in fruit about 3 mm. long; fruits solitary, globose, pubescent, about 3 mm. in diameter.

Loma de Ponciano, Sancti Spiritus Mountains, Santa Clara (*Leon and Clement 6717*).

34. *Rondeletia* (?) *tinifolia* Griseb. Cat. Pl. Cub. 129. 1866

TYPE LOCALITY: Western Cuba.

DISTRIBUTION: Sancti Spiritus Mountains, Santa Clara; pine-lands and arroyos, Pinar del Rio. Endemic.

35. *Rondeletia* (?) *camagueyensis* sp. nov.

A shrub about 3 m. high, the young shoots densely appressed-pubescent. Stipules triangular, acute, about 3 mm. long; leaves ovate or elliptic-ovate, 3–4 cm. long, 3 cm. wide or less, membranous, acute at the apex, narrowed or obtuse at the base, sparingly short-pubescent and indistinctly veined above, loosely strigose-pubescent, especially on the prominent veins beneath, the stout, pubescent petioles 2–3 mm. long; capsule subglobose, 4–6 mm. in diameter.

Arroyo, savanna near Camaguey (*Britton & Cowell 13206*).

Imperfect material only was collected at the time of our visit to the locality in April, 1912.

OTHER SPECIES ATTRIBUTED TO CUBA

Rondeletia microdon DC. Prodr. 4: 408. 1830

Havana, collected by Ossa, according to De Candolle. Described as a glabrous species, with oval-oblong, short-petioled

leaves acute at both ends, bipartite, persistent, obtuse stipules; corymbose peduncled flowers, the calyx truncate, with five short teeth. The genus of this plant was questioned by A. Richard (in Sagra, Hist. Cub. 11: 13), and I do not know any species which answers to the description.

Rondeletia americana L. Sp. Pl. 172. 1753

This, the type of the genus, is also recorded by De Candolle as found at Havana by Ossa, and Grisebach (Fl. Br. W. I. 327) mentions it as Cuban. I know the plant only from St. Vincent and Jamaica.

Rondeletia laevigata Ait. Hort. Kew. ed. 2, 1: 366. 1810

De Candolle mentions this also as found at Havana, but no species answering to the description is known to me from Cuba; Grisebach (Fl. Br. W. I. 328) indicates that it is from the island of Trinidad.

Rondeletia leptacantha DC. Prodr. 4: 410. 1830

Collected by Ossa, near Havana, according to De Candolle. Described as a plant with opposite spines, broadly oval, subacute leaves, the twigs and leaves subpilose when young, the slender peduncle as long as the leaves or longer, three- to five-flowered at the apex. No species of *Rondeletia* known to me answers the description. Grisebach (Cat. Pl. Cub. 133) refers the plant to *Chomelia fasciculata* Sw. [*Anisomeris fasciculata* (Sw.) Schum.], but this disposal of it is not satisfactory.

57. THREE ERIOCAULONS FROM THE ISLE OF PINES

Eriocaulon arenicola Britton & Small, sp. nov.

Plants 4–26 cm. tall, the scapes solitary or usually several together; leaves ascending or spreading, 1–8 cm. long, linear-attenuate, convex beneath, slightly concave above, glabrous; scapes slender, mostly 6-angled, slightly spirally twisted, each subtended by an obliquely opened sheath which is shorter than the leaves; heads dense, at first depressed-globose, later subglobose or ovoid-globose, becoming about 5 mm. in diameter, pubescent, whitish-gray; bracts of the involucre cuneate to obovate, the outer ones about 1.5 mm. long; flowers numerous,

crowded; bracts very broadly cuneate, fully 1.5 mm. long, short-hairy at and near the apex; sepals of the staminate flowers concave, cuneate to obovate, about 1.5 mm. long, exceeding the corolla, pubescent at the apex; corolla-lobes minute, ovate to oblong-ovate, obtuse; anthers about 0.25 mm. long; sepals of the pistillate flowers about 1.5 mm. long, boat-like, keeled, pubescent near the top; petals oblong to oblong-spatulate, fully 1 mm. long; capsule reniform-didymous, fully 0.5 mm. wide: seeds oval, barely 0.5 mm. long.

White sand, vicinity of Los Indios (*Britton & Wilson 14179*).

This plant is related to *Eriocaulon sigmoideum* C. Wright. It differs from it in the larger size, the more compact heads, the more copiously pale-pubescent and longer bracts, the smaller staminate flowers, and the sepals of the pistillate flowers which are wider below the middle, instead of at the top.

***Eriocaulon fusiforme* Britton & Small, sp. nov.**

Plants 3–6.5 cm. tall, the scapes tufted, usually densely so; leaves ascending or recurved, subulate-lanceolate, 1–2.5 cm. long, thinnish, concave, glabrous; scapes relatively slender, spirally twisted, prominently 5-angled, each subtended by an obliquely opened sheath which is shorter than the longer leaves; heads dense, fusiform, becoming 7–8.5 mm. long, acute, glabrous, brownish; bracts of the involucre ovate to oblong, obtuse, chartaceous, 2–3 mm. long; flowers numerous; bracts rhombic-ovate or rhombic-cuneate, mostly 2 mm. long, acute or short-acuminate, scarious, glabrous, or obscurely fine-pubescent; sepals of the staminate flowers spatulate to oblong-spatulate, about 1 mm. long, sometimes lacinate at the apex, about equalling the corolla or exceeding it; corolla-lobes ovate; anthers about 0.15 mm. long; sepals of the pistillate flowers about 1.5 mm. long, boat-shaped, strongly keeled and crested above the middle, acuminate; petals linear-elliptic to linear-spatulate, 1.5–2 mm. long; capsule suborbicular or orbicular-ovoid, about 0.5 mm. wide: seeds narrowly oval, about 0.5 mm. long.

Pinelands, Siguanea (*Britton & Wilson 14951*).

This differs from all described Cuban species of *Eriocaulon*. Its short stiff scapes and fusiform glabrous or nearly glabrous heads are particularly diagnostic.

***Eriocaulon ovoideum* Britton & Small, sp. nov.**

Plants 6–11 cm. tall, the scapes tufted, usually densely so; leaves erect or ascending, narrowly linear-lanceolate to linear-

attenuate, 1-3 cm. long, concave, thinnish, glabrous; scapes stoutish, spirally-twisted, sharply 5-angled, each subtended by an obliquely opened sheath which is as long as the leaves or shorter; heads very dense, ovoid or globose-ovoid, becoming 6-8 mm. long, obtuse, tan-colored; bracts of the involucre ovate to oblong, 1.5-3 mm. long, obtuse, glabrous, chartaceous; flowers numerous; bracts subreniform, mostly wider than long, broadly rounded at the apex, scarious, minutely pubescent; sepals of the staminate flowers obovate to cuneate, concave, fully 1 mm. long, erose at the apex, mostly exceeding the corolla; anthers ovoid, about 0.1 mm. long; sepals of the pistillate flowers boat-shaped, fully 1 mm. long, keel-winged and crested on the back, abruptly pointed: petals spatulate, about 1.5 mm. long, often erose at the apex; capsule reniform, about 1 mm. wide; seeds broadly oval, fully 0.5 mm. long.

White sand, vicinity of Los Indios (*Britton & Wilson 14220*).

Related to *Eriocaulon fusiforme*, differing in stouter habit, the short and broad heads, and in the broad and rounded bracts.

58. UNDESCRIBED CUBAN SPECIES

Dupatya montana sp. nov.

Stem simple, elongate, stout, densely leafy. Leaves broadly linear, 8-14 cm. long, 6-15 mm. broad at the base, narrowed to the acute apex, rigid, glabrous, striate-nerved; peduncles erect, 15-30 cm. high, often numerous, axillary, loosely pubescent with long, soft, white hairs, or glabrous; sheaths shorter than the leaves, acuminate; heads solitary on the peduncles, hemispheric, 7-8 mm. broad; outer involucre bracts ovate, the inner ones broadly oval to orbicular, rigid, acute, glabrous; receptacle pilose, the bracts membranaceous, obovate-cuneate, 1.8-2 mm. long, 0.6-0.8 mm. broad, with a tuft of short hairs on the back at the apex; staminate flowers dimerous; sepals spatulate-obovate, about 1.9 mm. long, concave, ciliate at the apex; pistillate flowers dimerous; sepals elliptic, concave; stigmas 2; ovary globose-ovate.

Collected on compact red iron ore along trail from Rio Yamanigüey to Camp Toa, Oriente, at 400 m. alt. (*J. A. Shafer 4473*, type); also collected along trail from Camp La Barga to Camp San Benito (*Shafer 4104*) and at Camp La Gloria, south of Sierra Moa (*Shafer 8045, 8251*).

Apparently closely related to *Dupatya pungens* (Griseb.) Britton (*Paepalanthus pungens* Griseb.), another Cuban species.

***Pilea Cowellii* sp. nov.**

Glabrous, perennial, monoecious, about 4 dm. tall; stem becoming more or less grooved and compressed in drying, clothed with numerous, small, elliptic raphides; leaves elliptic to ovate, or the uppermost oblong-obovate, 1–3 cm. long, 0.7–1.1 cm. broad, acute or obtuse at the apex, rounded and more or less cordate at the base, 3-nerved, green and lustrous above, paler beneath, with prominent, scattered, elevated callosities when fresh which become depressed in drying, entire; raphides of the upper surface linear, those of the lower surface punctiform; petioles 1–2 mm. long; inflorescence axillary, 1–2 cm. long, equalling or shorter than the leaves; staminate and pistillate flowers intermixed; staminate flowers: pedicels 0.5 mm. long, perianth glabrous, 1 mm. long, the lobes triangular-ovate; stamens 4; pistillate flowers short-pedicelled or subsessile.

Type collected on cliffs, Ensenada de Mora, Oriente (*Britton, Cowell & Shafer 12977*).

***Ichthyomethia havanensis* Britton & Wilson, sp. nov.**

A shrub 2 m. tall, with finely pubescent twigs; leaves odd-pinnate, 1–1.4 dm. long, the petioles, rachis and petiolules velvety-ferruginous when young; leaflets 9–13, elliptic to somewhat elliptic-obovate, 2.3–4.5 cm. long, 1.3–1.7 cm. broad, acute to rounded and often apiculate at the apex, rounded at base, short-petioluled, densely clothed with short, appressed, silky hairs when young, in age glabrous or nearly so above, finely pubescent and reticulate-veined beneath; calyx campanulate, pubescent with short, appressed brownish hairs; pods broadly 4-winged, puberulent with appressed hairs, 2–3.5 cm. long, 2–2.8 cm. broad, stipitate, the margin more or less undulate; seeds oblong, 5 mm. long, 2.5–3 mm. broad.

Related to *I. piscipula* (L.) A. S. Hitchc., but differing in the much smaller and more coarsely reticulate leaflets, and smaller fruit.

Thickets not far from Cojimar, Province of Havana (*Brother Leon & Father M. Roca 6194*, type); also collected on a hill west of Chorrera, Province of Havana (*Brother Leon 5192*).

***Castelaria calcicola* Britton & Small, sp. nov.**

A much-branched shrub up to 2.5 m. tall, with stout thorns which are branched when well developed, the twigs closely fine-

pubescent; leaf-blades obovate, varying to oval or ovate, mostly 1.5-4 cm. long, rounded or retuse and mucronulate at the apex, entire, slightly revolute and reticulate in age, bright green above, paler beneath, somewhat shining, minutely pubescent, especially on the midrib and veins beneath, short-petioled; flowers several in each cluster, short-pedicelled, the pedicels densely pubescent; sepals triangular-ovate, about 1 mm. long, green, acutish, copiously pubescent; petals ovate or oval, concave, cymbiform, 3.5-4 mm. long, red, sparingly pubescent on the back; filaments subulate, nearly 2 mm. long, villous-tomentose; anthers slightly longer than the filaments, oblong, or nearly so; drupes flat, fully 1.5 cm. long, nearly as wide, about 6 mm. thick, bright-red, the flesh thin, with a fibrous-reticulate network which is impressed into the putamen.

Limestone hills, vicinity of Sumidero, Pinar del Rio (*Shafer 13434*).

This shrub is related to *Castelaria jacquinifolia*. It differs from that species in the pubescent leaves, the triangular-ovate sepals, the pubescent petals, and the narrower and longer anthers.

***Stenostomum obovatum* sp. nov.**

A straggling tree, the slender twigs glabrous. Leaves coriaceous, obovate, 6 cm. long or less, rounded at the apex, narrowed at the base, revolute-margined, faintly shining, the midvein impressed above, prominent beneath, the lateral venation slender and obscure, the stout petioles 3-5 mm. long; inflorescence terminal; fruits in pairs, sessile, oblong, black, fleshy, 10-12 mm. long, 5-7 mm. thick.

Camp La Gloria, south of Sierra Moa, Oriente (*Shafer 8169*).

***Stenostomum aristatum* sp. nov.**

A rough-barked tree about 6 m. high, with widely spreading branches, the slender young twigs resinous. Stipules broadly ovate, obtuse, 3 mm. long, caducous; leaves elliptic or ovate-elliptic, coriaceous, 2.5 cm. long or less, acute and aristate at the apex, mostly obtuse at the base, shining and strongly reticulate-veined on both surfaces, especially above, the margins slightly revolute, the petioles 1-2 mm. long; peduncles solitary in the uppermost axils, about one-half as long as the leaves, 1- to 3-flowered at the apex; flowers fragrant; calyx narrowly campanulate, 5 mm. long, 5-lobed, the lobes oblong or oblong-obovate, 1.5-2 mm. long, rounded; corolla white, its tube narrowly cylindric, about 2 cm. long, 1 mm. thick, its limb spreading, 5-lobed, about 1 cm.

broad, the lobes rounded; stamens 5; anthers linear, 2 mm. long; ovary 6-celled.

Rocky hill, savanna near Camaguey (*Britton & Cowell 13241*).

59. NOTES ON VARIOUS SPECIES

Evolvulus siliceus Britton & Wilson, nom. nov.

Evolvulus arenicola Britton & Wilson, Bull. Torrey Club 43: 466. 1916. Not *E. arenicola* Johnston, 1905.

PERSICARIA HIRSUTA (Walt.) Small

Marsh near Ferry River, Jamaica (*Britton 394*). Hitherto unrecorded from Jamaica.

PHENAX SONNERATII (Poir.) Wedd.

Gravelly soil, Jamaica (*Alex. E. Wright 193*). Hitherto unrecorded from Jamaica.

PHYLLANTHUS NUMMULARIAEFOLIUS Poir.

Shady places, Hope Grounds, Jamaica (*Harris 12123, 12157, 12208*). Hitherto unrecorded from Jamaica.

VERONICA TOURNEFORTII Gmelin

Waste and shaded grounds, near Mandeville (*Crawford 683*) and near Cinchona, Jamaica (*Harris 12417*).

JACQUINIA KEYENSIS Mez.

Northern coast of Camaguey and Matanzas provinces, Cuba (*Shafer 689, 2593, 2712; Britton & Wilson 14043*); Little Goat Island, Jamaica (*Britton 1852*); Albion Mountain, Jamaica (*Harris 11678, 12199*). Heretofore recorded from the Bahamas and Florida.

CYRILLA BREVIFOLIA N. E. Brown

Mountains of northern Oriente, Cuba (*Shafer 4060, 4054, 4109, 4140, 4181, 8032*). Apparently identical with the plant of Mt. Roraima, British Guiana (Trans. Linn. Soc. II. 6: 22. pl. 1, f. 7-16).

STEMODIA PARVIFLORA Ait.

Rio Piedras, Porto Rico (*Stevenson 2178*). Hitherto unrecorded from Porto Rico.

DITTA MYRICOIDES Griseb.

Sierra de Naguabo, Porto Rico (*Shafer 3603*). Hitherto unrecorded from Porto Rico.

SIDA EGGERSII E. G. Baker

Island of Culebra, Porto Rico, 1906 (*Britton & Wheeler 178*). Hitherto known only from Tortola, where Dr. Shafer made a second collection of it in 1913. A tree, 6-8 m. high, very different from typical species of *Sida*.

OSSAEA DOMINGENSIS Cogn.

Alto de la Bandera, Porto Rico (*F. L. Stevens 8717*). Hitherto known only from Santo Domingo.

LESCAILLEA EQUISETIFORMIS Griseb.

This monotypic genus of Compositae was rediscovered on the southern slope of Cajalbana in the province of Pinar del Rio, Cuba, by Brothers Leon and Charles on April 6, 1915. The genus has hitherto been imperfectly known, as it was represented in this country only by a fragment at the Gray Herbarium, collected by Charles Wright in western Cuba. *Lascaillea* is a woody vine related to *Porophyllum*. The leaves are reduced to small scales, the plant resembling certain species of *Ephedra* much more closely than it does any *Equisetum*.



Britton, Nathaniel Lord. 1917. "Studies of West Indian Plants - IX." *Bulletin of the Torrey Botanical Club* 44, 1–37. <https://doi.org/10.2307/2479482>.

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