

REVISION OF THE LAURACEAE I

by

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List of abbreviations:

Herbaria	
B = Brussels	Lam. = Herb. Lamarck (Paris)
Br. = Brit. Museum	M. = München
Bs. = Herbar. Boissier (Genève)	Ms. = Meissner Herbar. (New York)
C. = Herb. Cosson (Paris)	NY. = New York
D. = Berlin-Dahlem	P. = Paris
Dr. = Herb. Drake (Paris)	R. = Rio de Janeiro
DC. = Herb. De Candolle (Genève)	St. = Stockholm
DI. = Herb. Delessert (Genève)	U. = Utrecht
F. = Field Museum (Chicago)	W. = Wien
G. = Göttingen	Ws. = Smithsonian Instit.
Gr. = Gray Herb. (Cambridge, Mass. U.S.A.)	(Washington. D. C.)
H. M. G. = Herb. Mus. Goeldi	Other abbreviations
H. R. J. = Herb. Rio de Janeiro	Ar. = Arowaccan language (Dutch Guiana)
I. = Koloniaal Instituut (Amsterdam)	B. W. = Boschwezen (Forestry Bureau)
K. = Kjöbenhavn	Car. = Carabic language
Kw. = Kew	N. E. = Negro English (Dutch Guiana)
L. = Leiden	Sar. = Saramaccan language (Dutch Guiana)
	S. D. = Surinam Dutch

The literature and synonyms, cited in this monograph are, — if not mentioned otherwise, — verified by myself. All specimens mentioned are identified or verified by myself.

I wish to express my best thanks to the directors of the above mentioned herbaria for their great assistance.

The specimens from Dutch Guiana have not yet been distributed.

ACRODICLIDIUM Nees *)

Acrodictidium Nees, Laur. Disp. Progr. (1833), p. 13; id., Syst. Laur. (1836), p. 266; Endl., Gen. (1837), p. 319, n. 2042; id., Ench. (1841), p. 197; Dietrich, Synops. Pl. II (1840), p. 1332; Spach, Hist. nat. Végét., Phaner. X (1841), p. 471; Steudel, Nomencl. ed. 2 (1841), p. 21; Meissn., Gen. I (1836—43), p. 326, II, p. 238; Reichb., Nom., p. 71, n. 2668; Orbigny, Dict. univ.

*) A proposal to retain this name and to reject *Licaria* has been made by Kostermans l.c.

VII (1846), p. 259; Lindl., Veg. Kgd. (1846), p. 537; Griseb., Fl. Brit. W. I. isl. I (1860), p. 280; Meissn. in D.C., Prodr. XV, 1 (1864), p. 84; id. in Fl. Bras. V, 2 (1866), p. 172; Benth. in Benth. et Hook., Gen. III (1880), p. 154; Baillon, Hist. II (1870), p. 474; Pfeiffer, Nomencl. (1873), p. 35; Durand, Index Gen. (1888), p. 349, n. 6190; Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 81; Pax in Engl.-Prantl, Pfl. fam. III, 2 (1889), p. 123; Dalla Torre et Harms, Gen. (1900—07), p. 178, n. 2819; Britton and Wilson, Porto Rico and Virg. isl. (1924), p. 316; Lemée, Dict. I (1929), p. 50; Benoist in Arch. Bot. V (1931), p. 65; Kosterm. in Pulle, Fl. Surin. II (1936), p. 315; — *Licaria* Aubl., Guia. I (1775), p. 313; Nees, Syst., p. 344; Endl., Gen. p. 320; id., Ench., p. 197; Spach., l.c.; Steudel, l.c., p. 41; Meissn., Gen. II, p. 238; Lindl., l.c.; Meissn. in D.C., l.c., p. 259; Benth., l.c., p. 150; Baillon, l.c., p. 452; Pfeiffer, l.c., p. 107; Durand, l.c., p. 489; Mez, l.c., p. 220; dalla Torre, l.c., p. 177 et 585; Lemée, l.c., IV, p. 85; Benoist l.c., p. 274; Kosterm. in Meded. Bot. Mus. Utrecht 25 (1936), p. 34; id. in Pulle, l.c., p. 323; — *Evonymodaphne* Nees, Syst., p. 244 et 263; Lindl., Syst. ed 2 (1836), p. 442; Endl., Gen. p. 319; id., Ench., p. 197; Dietrich, l.c., p. 1332; Spach, l.c.; Steudel, l.c., p. 621; Meissn., Gen. I, p. 326; id. II, p. 238; Rchb., l.c.; Lindl., l.c., p. 537; Meissn. in D.C., l.c., p. 111; id. in Fl. Bras., p. 203; Benth., l.c., p. 158; Baillon, l.c., p. 437; Pfeiffer, l.c., p. 1322; Durand, l.c., p. 349; Mez, l.c., p. 82; dalla Torre, l.c., p. 177; — *Triplomeia* Rafin., Fl. Tellur. (1838), p. 134; dalla Torre, l.c., p. 178; Mez, l.c.

Type species: *Acroclidium brasiliense* Nees.

Trees or shrubs in tropical South America and the West Indies. Leaves alternate or opposite, chartaceous or coriaceous, penninerved, usually thickened along the margin. Panicles or rarely pseudoracemes axillary and sub-terminal, few- to many-flowered, producing only few fruit. Flowers hermaphrodite. Involucre wanting. Flower tube usually distinct, sometimes small or wanting. Petals 6, usually nearly equal. The 2 outer rows of stamens transferred into small, rarely petalous staminodes, rarely abortive. Third row of stamens fertile, filaments slender or as broad as anthers, distinct or wanting; base provided outside with 2 glands, rarely glands wanting; anthers 2-celled, cells introrse, extrorse or extrorse-apically; valves as a rule dehiscent from base to top. Fourth row of stamens usually wanting, rarely staminodial. Ovary ellipsoid, glabrous or sericeous, immersed in the tube, style slender, stigma minute. Fruit at first included in the enlarged tube, at last exserted, base sur-

rounded by the simple- and thinly margined, or thick- and double-, rarely triple margined cupule. Cotyledons flat-convex, including the minute, 2—4-leaved plumule and conical radicle.

This genus, characterised by the 6 outer staminodes and the 3 fertile inner ones with basal glands and 2-celled anthers, links *Huberodaphne* and *Phyllostemonodaphne* with *Misanteca* and *Mezilaurus*.

Key to the species:

- 1a. Fourth row of staminodes distinct 2
- b. Fourth row of staminodes wanting 3
- 2a. Leaves cordate. Flower tube glabrous inside. Outer staminodes with sub-orbicular, fimbriate tops. Fertile stamens glabrous with rather large cells. Staminodes of the fourth row short, glabrous 1. *A. endlicheriaefolium* Kosterm.
- b. Leaves with rounded-acute base. Tube sericeous inside. Outer staminodes large, auricled. Fertile stamens sericeous at base, with auricled anthers, cells minute. Staminodes of the fourth row large, densely sericeous.
 - 2. *A. macrophyllum* A. C. Smith.
- 3a. Cells of the fertile stamens introrse. Ovary and leaves glabrous 4
- b. Cells extrose. Ovary and leaves glabrous or sericeous .. 9
- 4a. Leaves distinctly, densely, prominently reticulate on both sides. Flowers 4—7 mm l. in sub-racemes.
 - 5. *A. Puchury-major* (Mart.) Mez
- b. Flowers 1½—3 mm l. in panicles 5
- 5a. Leaves opposite 8. *A. rigidum* Kosterm.
- b. Leaves alternating 6
- 6a. Tepals patent, as long as the tube. Cells distinct 7
- b. Tepals incurved, shorter than the tube. Cells minute .. 8
- c. Tepals at last reflexed, tube wanting. Cells large.
 - 9. *A. armeniacum* (Nees) Mez
- 7a. Outer staminodes rectangular. Basal glands as long as the sessile stamens. Cells large 3. *A. amarum* Mez
- b. Outer staminodes clavate or spatulate. Cells small. Basal glands half as long as the stamens; filaments as broad as the anthers 4. *A. Camara* Rob. Schomb.
- 8a. Leaves coriaceous, elliptic, 8—12 cm l., reticulate on both sides. Panicles 3—12 cm l. Basal glands distinct. Cupule verrucous, triple-margined, outer one of 6 large lobes.
 - 6. *A. Canella* (Meissn.) Mez
- b. Leaves rigid-coriaceous, elliptic, 10—14 cm l., veins inconspicuous. Panicles 3 cm l. Basal glands wanting. Cupule

smooth with shortly lobed outer margin.

7. *A. cayennense* (Meissn.) Mez

- 9a. Ovary glabrous 10
- b. Ovary sericeous 22
- 10a. Leaves opposite 11
- b. Leaves alternate, rarely sub-opposite 14
- 11a. Leaves densely aureo-sericeous beneath 12
- b. Leaves sparsely, minutely sericeous or glabrescent beneath 13
- 12a. Leaves sericeous beneath. Flowers sub-globose. Stamens included. Outer staminodes distinct. Basal glands as long as filaments. Cells minute 15. *A. aureum* Hub.
- b. Leaves sericeous-tomentellous beneath. Flowers cylindrical. Stamens exserted. Outer staminodes as a rule abortive. Basal glands minute or wanting. Cells large.

16. *A. oppositifolium* Nees

- 13a. Leaves rigid-coriaceous, $6-8 \times 1\frac{1}{2}-2$ cm. Flowers unknown. Cupule thick, 28 mm h., 35 mm diam., warty; margin triple: inner one 1-2 mm h., outer one 8 mm thick, patent, with large irregular lobes in a double row.

8. *A. rigidum* Kosterm.

- b. Leaves chartaceous, $10-13 \times 2-3$ cm. Flowers narrowly urceolate. Outer staminodes slender, spatulate, 1 mm l. Stamens exserted. Cupule thin, smooth, 7 mm h., 15 mm diam.; margin simple 14. *A. Meissneri* Mez
- c. Leaves thin-chartaceous, $10-12 \times 3-4\frac{1}{2}$ cm. Flowers broadly funnel-shaped. Outer staminodes ovate or broadly elliptic, $\frac{3}{4}$ mm l. Stamens included. Cupule thin, 7 mm h., 15 mm diam.; margin simple 13. *A. debile* Mez
- 14a. Flowers 3 mm diam.; tube nearly wanting; petals reflexed after flowering. Outer staminodes $1\frac{1}{2}$ mm l. Basal glands tepaloid nearly as long as the stamens.

9. *A. armeniacum* (Nees) Mez

- b. Flowers up to 2 mm diam.; tube distinct; tepals erect or erect-patent. Outer staminodes up to 1 mm l. Basal glands shorter than the stamens 15
- 15a. Flowers cylindrical-urceolate, $3\frac{1}{2}$ mm l.

10. *A. guianense* Nees

- b. Flowers subglobose or broadly infundibuliform, up to $2\frac{1}{2}$ mm l., rarely sub-urceolate, but then only $1\frac{1}{2}$ mm l. .. 16
- 16a. Leaves distinctly prominulously reticulate above 17
- b. Leaves smooth above 18
- 17a. Leaves lanceolate, $6-9 \times 1\frac{1}{2}-2$ cm. Flowers sub-globose; petals incurved. Outer staminodes $\frac{1}{2}$ mm l.; filaments of

fertile stamens not distinct. West Indian species.

17. *A. salicifolium* (Sw.) Gr.

- b. Leaves elliptical, 12—16 $\times$ 3—6 cm. Flowers infundibuliform; tepals erect-patent; outer staminodes $\frac{3}{4}$ mm l. Filaments of fertile stamens slender, distinct.

12. *A. Pucheri* (R. et P.) Kosterm.

- 18a. Leaves elliptical, 7—10 $\times$ 2 $\frac{1}{2}$ —3 $\frac{1}{2}$ cm, minutely areolate above. Flowers sub-urceolate, rather slender.

11. *A. multiflorum* Kosterm.

- b. Leaves lanceolate, 6—9 $\times$ 1 $\frac{1}{2}$ —3 cm or elliptical, 12—19 $\times$ 4—9 cm, smooth above. Flowers globose 19
19a. Leaves lanceolate, 6—9 $\times$ 1 $\frac{1}{2}$ —3 cm., soon glabrous beneath. West Indian species 18. *A. sericeum* Griseb.

- b. Leaves elliptical, 12—19 $\times$ 4—9 cm, tomentellous beneath 20

- 20a. Flowers 2—2 $\frac{1}{2}$ mm diam 19. *A. Mutisii* Kosterm.

- b. Flowers 1—1 $\frac{1}{2}$ mm diam. 21

- 21a. Leaves elliptical, 12—16 $\times$ 4—5 $\frac{1}{2}$ cm, acuminate. Panicles dense, 4—6 cm l. Basal glands distinct.

20. *A. brasiliense* Nees

- b. Leaves broadly elliptical, 13—19 $\times$ 6—9 cm, abruptly acuminate. Panicles lax, 6—9 cm l. Basal glands minute.

21. *A. latifolium* A. C. Smith

- 22a. Leaves densely aureo-sericeous beneath. Flowers 3—4 mm l.

23

- b. Leaves minutely sericeous or glabrescent beneath. Flowers 1 $\frac{1}{2}$ —2 mm l. 24

- 23a. Leaves sub-opposite, 9—17 $\times$ 3 $\frac{1}{2}$ —7 $\frac{1}{2}$ cm. Flowers 4 mm l.

24. *A. chrysophyllum* Meissn.

- b. Leaves alternate, 6—7 $\times$ 2—2 $\frac{1}{2}$ cm. Flowers 3 mm l.

25. *A. Appelii* Mez

- 24a. Leaves 12—19 $\times$ 4—9 cm; veins prominulous above, densely minutely sericeous beneath, nerves not united. Top acuminate 25

- b. Leaves 7—13 $\times$ 2 $\frac{1}{2}$ —4 cm, nerves impressed above; beneath sericeous, glabrescent with arcuately united nerves. Top caudate-acuminate, acumen slender, 15 mm l.

23. *A. Aubletii* Kosterm.

- 25a. Leaves coriaceous, usually oblanceolate or obovate, tapering. Stamens united. Stigma thickened below the top.

22. *A. Martinianum* Mez

- b. Leaves chartaceous, elliptical, base shortly acute. Stamens conglutinate, not united. Stigma not thickened.

20. *A. brasiliense* Nees

1. *Acrodictidium endlicheriaefolium* Kosterm. n. sp.

Typus: Killip & Smith 24901; Peru: Dept. Junin, San Ramon [Ws].

Arbor, 7—8 m (Killip & Smith). Ramuli teretes crassi glabri laeves. Folia alterna chartacea-coriacea glabra late elliptica 25×15 cm, basi rotundata subcordata, margine incrassata, apice leviter acuminata; supra viridia laevia nervo mediano costisque planis vel impressis venis prominulis laxe reticulatis infra brunescentia sub lente punctulata nervo mediano valde prominente costis utrinque 5—6 arcuatis erectopatentibus prominentibus venis prominulis laxe reticulatis. Petioli robusti laeves 7 cm longi. Paniculae axillares subterminales 15 cm longae laxae sub-pauciflorae pedunculo glabro crasso laeve 10 cm longo ramulis divaricato-dichotomis inferioribus 2 cm longis. Bractee minutae deciduae. Pedicelli glabri graciles 5 cm longi. Flores immaturi globosi $1\frac{1}{2}$ —2 mm diametro glabri tubo subnullo intus glabro perianthii segmentis subaequalibus ovato-orbicularibus carnosius acutis $1\frac{1}{2}$ mm longis. Staminodia exteriora spatulata $\frac{3}{4}$ mm longa margine fimbriata. Stamina fertilia inclusa, glabra 1 mm longa filamentis distinctis planis antheris orbicularibus loculamentis extrorsis magnis glandulis sub-basalibus planis parvis. Staminodia seriei quartae glabra cylindrica $\frac{1}{2}$ mm longa. Ovarium sub-globosum glabrum $\frac{3}{4}$ mm longum stylo crasso breve stigmate minuto discoideo. Fructus ignotus.

Distributio: Peruvia.

Dept. Junin. San Ramon, sylvis, alt. 900—1300 m (Killip et Smith 24901, fl. m. Jun. [Ws.]).

Species *Acrodictidio macrophylo* A.C. Smith affinis sed foliorum forma et florum characteribus diversa.

2. *Acrodictidium macrophyllum* A. C. Smith in Bull. Torrey Bot. Cl. 58 (1931), p. 101.

Typus: Klug 80; Peru: Dept. Loreto at Mishuyacu [NY.].

Tree, 4 m (Klug). Branchlets thick, terete, glabrous, shining, grey. Leaves alternate, chartaceous-coriaceous, glabrous, elliptic, 25 — 40×10 — 16 cm, base shortly cuneate, margin thickened, top acuminate (acumen up to 4 cm l.); above green, midrib and primary nerves prominulous or slightly impressed, veins slightly impressed, beneath glabrescent, brownish, midrib strongly prominent, prim. nerves (8—9 per side) prominent, erect-patent, arcuate, veins prominulous, laxly reticulate. Petioles glabrous, stout, 5—7 cm l., deeply canaliculate. Panicles axillary, subterminal,

pyramidal, rather few-flowered, sparsely pilose, up to 14 cm l.; base surrounded by deciduous, ovate, acute, up to 1 cm. l. scales; peduncles stout, flattened, 4—6 cm l., branchlets divaricate, up to 4 cm l., bracts oblong, deciduous, sparsely pilose, 1 mm l. Pedicels sparsely pilose, 6 mm l. Flowers yellow (Klug), obconical-subglobose, 3 mm l., glabrous; tube obconical, minute, sericeous inside; tepals fleshy, ovate-orbicular, obtuse, erect, outer ones $1\frac{1}{2}$ mm l., inner ones 2 mm l. Outer staminodes $1\frac{1}{2}$ mm l., filaments distinct, flat, sparsely pilose, top ovate-orbicular, the base auricled. Fertile stamens exserted, 2 mm l., filaments pilose, $1\frac{1}{2}$ mm l., rather broad, base provided with 2 elliptic, distinctly stalked glands; anthers carnose, glabrous, ovate-triangular, base auricled, cells large, extrorse-apical, slightly protruding, valves dehiscent from top to base. Staminodes of the fourth row stipitiform, densely hirsute, 1 mm l. Ovary ellipsoid, glabrous, 1 mm l., style slender, 1 mm l., stigma minute. Fruit unknown. (fig. 2, p. 747).

Distribution: Peru.

Dept. Loreto, in forest at Mishuyacu near Iquitos, alt. 100 m (Klug 80, fl. Oct. [NY. Ws. F.]; 246, fl. Nov. [Ws. F.]).

Smith l.c. in his description omitted the characters: Cells dehiscent from top to base and the presence of large staminodes within the row of fertile stamens. The unpublished *A. Canelo* Rose he refers to, belongs to the genus *Misanteca*.

3. *Acroclididium amarum* Mez in Fedde, Repert. 16 (1920), p. 305.

Typus: Ule 9403, Bolivia: Rio Madeira near Porvenir. [D.].

„Louro preto” (Krukoff).

Tree, 20 m. h., 1 m. diam. breasthigh (Krukoff). Branchlets angular, sericeous; branches thick, sub-cylindrical, shining, glabrous, grey. Leaves alternate, coriaceous, glabrous, elliptic, 12—15 × 4—5 cm., base cuneate, slightly decurrent, margin hardly thickened, top acuminate (acumen up to 15 mm l.); above green, smooth, midrib and prim. nerves flat or slightly impressed; beneath brownish or greyish-brown, midrib prominent, prim. nerves (8 per side) arcuate, erect-patent, prominent; veins obscurely reticulate. Petioles glabrous, about 1 cm l., deeply canaliculate. Panicles axillary, sub-terminal, pyramidal, rusty-sericeous, up to 4 cm l., peduncles stout, 1 cm l., branchlets patent, up to 1 cm l. Pedicels obconical, grey-sericeous, 1 mm l., merging into the flower tube. Flowers 4 mm diam.; tube obconical, $1\frac{1}{2}$ mm l., grey-sericeous outside, glabrous inside; tepals nearly equal, patent, fleshy, nearly glabrous, ovate-orbicular, acutish, $1\frac{1}{2}$ mm l. Outer

staminodes oblong-rectangular, flat, slightly pilose, $\frac{1}{2}$ mm. l. Fertile stamens included, sub-orbicular, pilose; filaments not distinct; anther cells large, introrse; basal glands fleshy, as large as stamens, covering the whole outer surface of the latter. Staminodes of the fourth row none. Ovary immersed in the tube, glabrous, ellipsoid, 1 mm l., style slender, 1 mm l., stigma minute. Berry ellipsoid, $2\frac{1}{2}$ cm l., 2 cm diam. Cupule thick, hemispheric, 2 cm h., $2\frac{1}{2}$ cm diam., 1 cm deep, margin truncate, slightly double, 3 mm broad. (fig. 2, p. 747).

Distribution: Matto Grosso, region of upper Madeira river.

Rio Madeira near Porvenir, woods (Ule 9403, fl. Jan. [D. Dl.]; upper Machado R. region near Tabajaza (Krukoff 1323, fr. Nov. [Dl.]).

4. *Acroclididium Camara* Rob. Schomburgk in Lond. Journ. Bot. III (1844), p. 629, 630; Lindl., Veg. Kgdm. (1846), p. 537; Schomb., Reis. in Brit. Guia. II (1848), p. 335, III, p. 1075; Nees in Linnaea 21 (1848), p. 500; Meissn. in D.C., Prodr. XV, 1 (1864), p. 87, 510; id. in Fl. Bras. V, 2 (1866), p. 175, 319; Benth. in Benth. et Hook., Gen. Pl. II (1880), p. 155; Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 87, t. III, f. 5 et 35; O. Warburg, die Muskatnuss (1897), p. 508, f. 7; Correa, Dicc. Pl. ut. Bras. I (1926), p. 413.

Typus: Schomb. 1540; Brit. Guiana: vicinity of Roraima and upper Mazaruni and Cuyuni R. [D.].

„American Nutmeg; Camacou or Waccawai or Akawai Nutmeg; (Arecuna Indians)” (Schomb.). „Cambara de cheiro” (Correa).

Tree, up to 12 m h. (Schomb.); trunk grey, nearly smooth, up to 3 m diam. at base, showing tendency for tabular projections near the lower part (Schomb.). Branchlets rather slender, subangular, minutely, densely yellow- or grey-tomentellous; branches glabrous, terete, grey; buds yellow, sericeous; bark aromatic. Petioles stout, flat, hardly canaliculate, glabrous, 8—15 mm l. Leaves alternate, coriaceous, glabrous, smooth, rather dull, ovate-lanceolate or elliptical, 10—16 $\times$ 3— $5\frac{1}{2}$ cm, base shortly acute, margin hardly thickened, top acuminate, acumen obtuse; above green, midrib flat, prim. nerves flattish, veins obliterate; beneath brownish, midrib broad, flattened, prim. nerves (6—12 per side) rather patent, hardly prominulous, sometimes with sparse hairs, veins obsolete; surface punctulate-areolate. Panicles axillary, lax, few-branched, rather many-flowered, minutely yellow-tomentellous, up to 10 cm l.; peduncles short, slender, compressed; branchlets patent, up to 3 cm l. Bracts minute, deciduous. Pedicels minutely

pilose, slender, 2—3 mm l. Flowers sub-campanulate, cream-coloured (Schomb.), sparsely, minutely yellow-tomentellous, 2—3 mm h., 4 mm diam.; tube broadly conical, slightly constricted below the tepals, $1\frac{1}{2}$ mm l., inside densely hirsute. Tepals equal, rather patent, broadly ovate, acutish, fleshy, $1\frac{1}{2}$ mm l., inside pilose at base. Outer staminodes obovate-spathulate, unguiculate, glabrous, $\frac{3}{4}$ mm l. Fertile stamens thick, included, sub-trigonus-turbinate, glabrous, $2\frac{1}{2}$ mm l.; filaments not distinct, top oblique-truncate; cells small, introrse; basal glands large, flattened. Ovary ellipsoid, glabrous, 1 mm l., merging into the 1 mm l., slender style, stigma minute. Berry very large, depressed-globose, $4\frac{1}{2}$ cm l., 5 cm diam.; cupule thick, verrucous, smooth or minutely rugulose, irregular. (fig. 1, p. 739).

Distribution: British Guiana, Roraima.

Brit. Guiana: Vicinity of Roraima and upper Mazaruni and Cuyuni R. (Schomb. 1540, fl. Dec. [D.L.F.]; 955, fl. Dec. [Ms.W.Kw.Bs.DC.]; s.n. [Kw.]).

5. *Acroclididium Puchury-major* (Mart.) Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 87; Warburg, die Muskatnuss (1897), p. 510, f. 9 A.B. et 10; Engl., Nachtr. I (1897), p. 174. — *Ocotea Puchury maior* Mart. in Buchner, Repert. Pharm. 35 (1830), p. 171; de Férussac, Bull. sc. nat. 24 (1831), p. 62; Mez l.c.; Baillon in Journ. Botan. 29 (1891), p. 57. — *Nectandra Puchury maior* Nees et Mart. in Nees Syst. (1836), p. 328; Endl., Ench. (1841), p. 204; Mart., Syst. mat. med. (1843), p. 109; Meissn. in D.C., Prodr. XV, 1 (1864), p. 156 et 512; id. in Fl. Bras. V, 2 (1866), p. 265, t. 95; Mart., Arzneipfl. p. 3; Baillon, Hist. II (1870), p. 463; Leunis, Synops. Pflk. ed. 3 (1885), p. 488; Mez l.c. — *Nectandra Puxiri* Nees mscr. ex Spruce n. 2076 in herb. Kew.

Typus: Martius s.n.; Rio Negro in sylvis ad Tabatinga [M.].

"Puchury, Puchery, Puchyry, Picheri, Puxiri, Puxirim" (Nees, Martius, Spruce). Cotyledons: "Fava de Pechuri" (Buchner); "Macis-bean" (Warburg); "Fabas Pichurim officinarum" (Mez).

Tree. Branchlets thick, erect, glabrous, dark, angular; branches terete, dark or yellowish-brown, sulcate; buds glabrous. Bark aromatic. Leaves alternate and sub-opposite, coriaceous, glabrous, shining, elliptic, $8-20 \times 3\frac{1}{2}-8$ cm, base abruptly acute or slightly tapering, margin slightly thickened, top usually caudate-acuminate, acumen usually narrow, obtuse, up to 2 cm l.; above green, rather densely prominently reticulate; beneath yellowish-green or brownish, midrib prominent, prim. nerves (8—10 per

side) prominent, erect-patent, arcuate, veins prominent, reticulate. Petioles rather slender, glabrous, up to 2 cm l. Racemes or rarely sub-panicles axillary, sub-terminal, few-flowered, sparsely, rusty-tomentellous, densely grey- or rusty-tomentellous towards the top, up to 10 cm l., peduncles stout, short. Pedicels 0—1 mm l. Flowers brownish (Ducke), sparsely, minutely tomentellous, 4—7 mm l., ellipsoid or sub-urceolate; tube large, ellipsoid, up to 5 mm l., 3 mm diam.; tepals equal, 4 times shorter than the tube, scaly, fleshy, ovate-orbicular. Outer staminodes glabrous, fleshy, foliaceous, linear-elliptic, 2 mm l. Fertile stamens densely, minutely tomentellous, except top, thick, triangular, 2 mm l., included, filaments not distinct, conical, basal glands minute, hardly conspicuous, anthers obtuse, cells introrse. Fourth row of staminodes none. Ovary immersed in the tube, globose-ellipsoid, glabrous, 1½ mm l., merging into the slightly shorter, thick style, stigma minute. Berry ellipsoid, 6 cm (ex Warburg, Nees). Cupule large, thick, sub-pateriform, rugulose, 2½ cm l., 4 cm diam., margin 2 mm thick, obscurely double.

Distribution: Basin of Amazon R. from Rio Negro to Mouth.

Rio Negro, Tabatinga, woods (Martius s.n., fr. Oct. [M.Dl.D.B.L.]); near Borba (Riedel s.n. [Ms.]); Rio Urubari (Rio Negro), cultiv. in Hanauaca (Spruce 2076 [Kw.P.]); Belem do Para, cult. (H.R.J. 19981, fl., fr. June [Ws.U.D.St.P.Bs.]); Para (s.coll. ex herb. Lusit. [P.]).

6. *Acroclididium Canella* (Meissn.) Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 90; Pulle in Rec. Trav. Bot. Néerland. 6 (1909), p. 264; Pfeiffer, Houts. van Suriname 2 (1926), p. 176; Correa, Dic. Pl. uteis Brazil (1926), p. 438; Benoist in Bull. Soc. Bot. France 75 (1928), p. 976; id. in Arch. Botan. V (1931), p. 66; Kosterm. in Meded. Mus. en Herb. Utrecht 25 (1936), p. 34, 52, 63; id. in Pulle, Fl. of Surin. 2 (1936), p. 318. — *Aydendron Canella* Meissn. in D.C., Prodr. XV, 1 (1864), p. 90; id. in Fl. Bras. V, 2 (1866), p. 180. — *Nectandra nitidula*, var. β *maior* Nees, Syst. (1836), p. 313. — *Aniba megacarpa* Hemsl. in Hook. Ic. 8 (1903), f. 2751—2; Mez in Bull. Herb. Boiss. V (1905), p. 234; Brooks in Kew Bull. 1933, p. 213.

Typus: Sagot 1190; French Guiana: Acarouany. [P.].

"Laurier matac" (Trinidad: Dannouse); "Laurier pulcherro" (Trinidad: Brooks); "Bois canelle" (French Guiana: Sagot); "Brown silverballi" (Brit. Guiana: For. Bur.); "Kaneelhart (S.D.), Kaneerje hoedoe, Nagrehoedoe (N.E.), Sierwaballi tjanarie, Kaneerjoe, Ajoe

wi (Car.), Apiesie-ie, Banba apisie-ie (Saram.)" (Dutch Guiana: For. Bur.).

Tree, up to 25 m, trunk 20 cm diam with buttresses; bark light-brown, silvery-greyish. Branchlets stout, terete, glabrous, grey or fuscous, wood fragrant, very hard; buds glabrous or nearly so. Leaves alternate or sometimes sub-opposite, usually clustered near the top of the branchlets, coriaceous, glabrous, shining on both sides (beneath less), elliptic or narrowly oblong, often sub-obovate, (5—)8—12(—20) $\times$ (2—)3—5(—8) cm, base acute or slightly cuneate, margin thickened, top shortly, obtusely acuminate, often rounded; above dark-green, midrib slightly prominent, prim. nerves prominulous, veins prominulous, laxly reticulate, rarely more or less obliterate; beneath brownish, midrib strongly prominent, prim. nerves (7—10 per side) prominent, patent, arcuately united, veins prominulous, laxly reticulate. Petioles stout, glabrous, flat above margin slightly decurrent, 1—1½ cm l. Panicles rather few-flowered, axillary, sub-terminal, densely rusty-tomentellous, glabrescent, 1—11 cm l., peduncles rather thick, short or distinct, sub-angular, branchlets up to 5 cm l. Flowers greenish, cream-coloured, or yellowish-white, rusty-tomentellous, sub-globose, 1—2 mm l. Pedicels slender or stout, ½—3 mm l. Bracteoles lanceolate, acute, densely tomentellous, 1 mm l., deciduous, tube hemispheric, 1½ mm l., inside glabrescent; tepals scaly, fleshy, incurved, nearly equal, ovate, obtuse or acutish, 1 mm l., inside glabrous, outer ones broader than long, inner ones narrower. Outer staminodes ovate, obtuse, often slightly constricted near the base, glabrous, rather fleshy, up to ¾ mm l. Fertile stamens erect, thick, glabrous, conical, included, 1 mm l.; anthers truncate, cells introrse-lateral, minute, filaments not distinct, basal glands half the stamen-length, ovate-triangular, rather flat. Fourth row of staminodes wanting. Ovary globose-ellipsoid, glabrous, ¾ mm l., style conical, ¾ mm l., stigma minute. Berry ellipsoid, up to 7 cm l., 2 cm diam., smooth; cupule very thick, cylindric-hemispherical, 5 cm diam., densely rusty-warty, base 1½ cm thick, inner margin small, erect, outer of 5, irregular, thick, 1 cm long, erect lobes.

Distribution: Trinidad, Guiana, Rio Negro.

Trinidad, Tabaquita, Guapa (Dannouse 6786, fl. & fr. March [D.Kw.NY.U.], type of *Aniba megacarpa* Hemsl.; French Guiana: Acarouany (Sagot 1190, fl. Aug. [P.D.DC.Ms.W.Kw.U.]); loc. unknown (Mélinon s.n. [D.P.], id. 623 [F.Ws.]), Godebert (Wachenheim 193 [P.]); Dutch Guiana: Forest Reserve Zanderij I (Lanjouw 319, fl. Aug. [U.], Sectie O(B.W. 42 and 42 a, fl. July, Aug. [U.I.L.St.NY.Ws.Kw.R.]), Kaboerie, tree n. 600 (B.W. 4961, fr. Oct. [U.D.B.Ws.Kw.Dl.Br.P.]); British Guiana: Mazaruni Station, alt. 15 m (For.

Dept. 2299, fl., fr. Aug. [Kw.U.]); Brazil: Rio Negro, Coari (Martius s.n. [M.], type of *Nect. nitidula*, var. *maior* Nees).

7. *Acrodiclidium cayennense* (Meissn.) Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 91; Benoist in Bull. Soc. France 75 (1928), p. 976; id. in Arch. Bot. V (1931), p. 66; Kosterm. in Meded. Mus. en Herb. Utrecht 25 (1936), p. 52; id. in Pulle, Fl. of Surin. (1936), p. 316. — *Aydenndron cayennense* Meissn. in D.C., Prodr. XV, 1 (1864), p. 95; id. in Fl. Bras. V, 2 (1866), p. 186. — *Acrodiclidium copenamense* Pulle in Rec. Trav. Bot. Néerland. 6 (1909), p. 263.

Typus: Patris 41; French Guiana: Cayenne [DC.].

„Cèdre flibustier” (Fr. Guia.: Richard); „Kaneelhart (S.D.), Kanerichoedoe (N.E.), Atjarie tjanarie, Wajaaka, Ajoewi (Car.), Sirocaballi, Sirocaballi tataroe, Koeralaballi (Arow.), Apisie-ie, Badagos, Banda apisie-ie (Saram.)” (Dutch Guia.: For. Bur.); „Waibama, Brown silverballi” (Brit. Guia.: For. Bur.).

Tree. Branchlets glabrous, stout, shining, sub-angular, grey or fuscous; buds glabrous. Timber brownish-yellow, fragrant, porous. Bark grey with irregular longitudinal fissures (Sandw.) Leaves alternate or often sub-opposite or clustered, rigid-coriaceous, glabrous, shining, elliptical or obovate-elliptical, the upper ones lanceolate-elliptical, $(4\frac{1}{2}-) 10-14 (-21) \times (2\frac{1}{2}-) 5-6 (-7)$ cm, base shortly acute or cuneate, margin slightly thickened, top shortly, obtusely acuminate, often rounded, above with flat or somewhat impressed midrib, prim. nerves nearly inconspicuous, beneath with prominent midrib, prim. nerves (8—10 per side) patent, straight, prominent, arcuately united along the margin, veins inconspicuous. Petioles thick, glabrous, flat above, 12—22 mm l. Panicles axillary, sub-terminal, 1—3 cm l., densely rusty- or grey-tomentellous, peduncles short, thick, branchlets short, dichotomous, thick. Bracts ovate, acute, tomentellous, 1 mm l., deciduous. Flowers greenish, sticky, globose or sub-urceolate, $2-2\frac{1}{2}$ mm l., densely tomentellous; tube large, hemispheric, slightly constricted below the petals, 2 mm l.; tepals scaly, erect or slightly incurved, ovate, acutish, inside glabrous, $\frac{3}{4}$ mm l., inner row slightly shorter. Outer staminodes nearly as long as petals, membranous, ovate-oblong, obtuse, or minutely mucronulate, not contracted at the base. Fertile stamens thick, erect, glabrous, glandless, truncate, included, $\frac{3}{4}$ mm l.; cells minute, introrse-lateral; filaments indistinct. Fourth row of staminodes wanting. Ovary globose-ellipsoid, glabrous, $\frac{3}{4}$ mm l., style conical, $\frac{3}{4}$ mm l., stigma minute. Berry ellipsoid, 2 cm l. Cupule very thick, hemispheric,

contracted below the margin, 2 cm h., 3 cm diam., outer margin erect-patent, of 5 mm h. lobes, inner margin thinner, erect, small.

Distribution: Guiana.

French Guiana: Cayenne (Patris 41 & s.n. [Dl.Ms.L.D.C.], Richard s.n. [K.]); Godebert (Wachenheim 133 [P.]). Dutch Guiana: Sectie O, tree 703 (B.W. 1332 [U.Dl.Br.]); Zanderij 1 (B.W. 5801 [St.F.U.D.N.Y.]; 4317 [R.U.L.P.I.]; 145 [Kw.Ws.U.]; 2254 [U.B.P.], fl. Aug.; Lanjouw 320, fl. Aug. [U.Kw.St. Ws.]); upper Coppename R. (Boon 1201 [U.], type of *A. coppenamense* Pulle); Brownsberg, tree 1007 (B.W. 2443 [U.R.Kw.]). Brit. Guiana: Essequibo R., Moraballi Creek near Bartica (Sandwith 114 [Kw.]); Siroppla R., Jutura (For. Bur. 805 B, fr. July); Head of the Attakapuru Creek, Demerara R. (For. Bur. 805 [Kw.]).

The two last specimens differ from the type specimen in having a distinctly visible reticulation of veins on both sides. As to the flower and cupule characters, they are identical with the type.

8. *Acrodictidium rigidum* Kosterm. in Meded. Mus. en Herb. Utrecht 25 (1936), p. 38, f. 4; id. in Pulle, Fl. Surin. II (1936), p. 324. — *Acrodictidium guianense*, var. *δ oppositifolium* Meissn. in D.C., Prodr. XV, 1 (1864), p. 85; id. in Fl. Bras. V, 2 (1866), p. 173; Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 98, p.p., quoad cit. spec. Mélinonis 601 ex Herb. Paris.; Kosterm. l.c.

Typus: B.W. 4682; Dutch Guiana: Sectie O, tree 852 [U.].

„Sassafras” (Mélinon); „Kaneel-pisie, Rozenhout” (S. D.).

Tree, 25—30 m., 60 cm diam. with buttresses; bark yellowish (For. Bur.). Branchlets slender, stiff, slightly angular, densely grey- or rusty-tomentellous; branches terete, glabrous, grey; buds densely grey-sericeous. Leaves opposite, coriaceous, lanceolate, (5-) 6—8 (-11) $\times$ $1\frac{1}{2}$ —2 (-2 $\frac{1}{2}$) cm, on sterile branchlets membranous, up to $4\frac{1}{2} \times 18$ cm; base shortly acute, margin hardly thickened, top acuminate or acute; above glabrous, shining, midrib filiform, prominulous, or slightly impressed, prim. nerves hardly distinct or impressed; beneath dull, brownish, sparsely pilose (denser on midrib), midrib prominent, prim. nerves (5—10 per side) rather patent, arcuately united, prominulous, veins obliterate. Flowers unknown. Panicles axillary, short. Berry unknown. Cupule very large and thick, up to 28 mm h., 35 mm diam., hemispheric, with large rusty warts; margin triple, inner one thin, 1—2 mm h., erect, outer ones 8 mm thick, more or less patent, with large irregular lobes in a double row, up to 7 mm h.

Distribution: French and Dutch Guiana.

French Guiana: Maroni (Mélinon 601 (= 28) and s.n. [P.Ws.Kw.]);

Cayenne (coll. unknown [P.NY.D.DC], type of *A. guianensis*, var. *oppositifolium* Meissn.); Godebert (Wachenheim 65 [P.]). Dutch Guiana: Sectie O, tree 852 (B.W. 38; 4249, 4682, fr. May [U.]; 4259 [NY.Ws.Kw.HR.J.]); Beaumontlijn, hills (Junker s.n. [Delft], fr. March).

9. *Acroclididium armeniacum* (Nees) Mez in Jahrb. Bot. Gart. V (1889), p. 85; id. in Arb. Bot. Gart. Breslau 1 (1892), p. 110; Buchtien, Contrib. Fl. Bolivia I (1910), p. 115; A. C. Smith in Bull. Torrey Bot. Cl. 58 (1931), p. 100. — *Evonymodaphne armeniaca* Nees, Syst. (1836), p. 264; id. in Linnaea 21 (1848), p. 499, excl. cit. spec. Poeppig 1861; Mez l.c.; Dietrich, Synops. Plant II (1840), p. 1332, 1345. — *Laurus armeniaca* Poeppig ex Nees, Syst. l.c., excl. spec. Poeppig 1861; Mez l.c. — *Oreodaphne terminalis* Poeppig ex Meissner in D.C., Prodr. XV, I (1864), p. 139; Mez l.c. — *Oreodaphne evonymodaphne* Meissn. in D.C., l.c.; id. in Fl. Bras. V, 2 (1866), p. 241; Mez l.c. — *Acroclididium parviflorum* (Meissn.) Mez in Jahrb. l.c., p. 85; id. in Arb. Breslau l.c., p. 111. — *Mespilodaphne parviflora* Meissn. in D.C., l.c., p. 109; id. in Fl. Bras. l.c., p. 202.

Typus: Poeppig 1787; Peru: Maynas circa oppidum Tocache ad fl. Huallagam [W.].

Tree or shrub, 5–12 m (Krukoff, Ule). Branchlets slender, sub-angular, glabrous, grey, shining; buds slightly sericeous. Leaves alternating, chartaceous, elliptical or lanceolate, glabrous, 10–18 × 3–6 cm, base cuneate or shortly acute, margin nearly flat, top acuminate (acumen up to 3 cm l.) or acute; above dark-green, rather dull, midrib and prim. nerves prominulous, veins densely reticulate, hardly conspicuous; beneath paler, dull, brownish, midrib prominent, prim. nerves (6–10 per side) prominent, rather patent, usually arcuately united at some distance from the margin, veins reticulate prominulous or obliterate. Petioles slender, glabrous, canaliculate, 5–15 mm l. Panicles slender, lax, few-branched, few-flowered, axillary or subterminal, slightly pilose, glabrescent, 5–10 cm l. (often racemes); peduncles slender, thin, compressed, 1–5 cm l., branchlets up to 1 cm l., patent. Pedicels thin, about 5 mm l., after flowering up to 15 mm l., glabrescent. Flowers yellowish-brown (Klug, Ule), sub-mature globose, 1–1½ mm diam., after flowering (tepals reflexed) 3 mm diam. Tube nearly wanting, sericeous inside; tepals reflexed, fleshy, glabrous, ovate, rounded, concave, inner ones 2½ mm l., 2 mm w., outer ones 1½ mm l., 1 mm w. Outer staminodes elongate-spathulate (in youth nearly sessile), truncate or rounded, sericeous, up to 1½ mm l., incurved. Fertile stamens elongated-quadrangular, oblique-truncate, sericeous, filaments not distinct from

anthers, basal glands large, often tepalous, as long as stamens, appressed only in youth, shortly stipitate; cells introrse, large, often by compression giving the impression of being apical or extrorse-apical. Fourth row of staminodes wanting. Ovary ellipsoid, glabrous, 1 mm l., style slender, 1 mm l., after flowering curved, stigma minute. Berry ellipsoid-ovoid, smooth, 25 mm l., 15 mm diam. Cupule at first double-margined, outer margin reflexed, deciduous, inner one thin, erect, at last simple-margined, sub-hemispheric, 15 mm diam., 10 mm h., berry covered for 10 mm. Pedicel obconical, merging into the cupule.

Distribution: Basin of Amazon River, and vicinity of Rio de Janeiro.

Brazil: in forest near Rio de Janeiro (Riedel 478, fl., fr. June, July [Kw. Ms.Bs.], type of *A. parviflorum* Mez); Serra dos Orgãos near Rio de Janeiro (Luschnath s.n., fl., fr. Apr. [B.]); Minas Geraes, Rio Novo (Araujo ex Herb. Schwacke 10341, 6826 [D.]); Rio Negro, Cachueira Grande, Manaos (Ule 8850, fl. June [D.Dl.L.Ws.NY.]); Aruaja, on varzea land, basin of Rio Jurua (Krukoff 4579, fl. May [D.Dl.U.NY.St.]); Humayta near Tres Casas on varzea land, basin of Rio Madeira (Krukoff 6155, fr. Sept. [U.NY.]); Blumenau, forest at Scharfe Ecke (Ule 832, fl. March [D.]); Rio Grande Portella, Monte Sinai (Nunes 282, H. R. J. 28021 and 27998 [R.U.]); Peru: Dept. Loreto along Rio Itaya, forest South of Hacienda Rio Masana (Williams 104, fl. May [F.D.]); Dept. Loreto, wooded banks of Rio Itaya above Iquitos, alt. 100 m (Killip & Smitih 29288, fr. Sept. [F.Ws.NY.]); Dept. Loreto, Rio Masana, Iquitos (Williams 64, fl. March [F.]); Dept. Loreto. Mishuyacu near Iquitos, 100 m alt., forest (Klug 1379 and 1267, fl. Apr.-June [F.Ws.NY.]); Maynas alto, Tocache on Huallaga, forest (Poeppig 1787, fl. June [W.P.L.D.M.Bs.Ms.]); Dept. Loreto, La Victoria on the Amazon R. (Williams 2728, fr. Aug. [F.]).

Mez erroneously described *A. parviflorum* as a species missing the outer staminodes: they are, however, distinct, even in the type specimen, though dropping easily. The flowers are not smaller than those of *A. armeniacum*, but one is easily led astray by the different appearance of flower and fruit in premature and mature state. The petals, at first erect, become strongly reflexed and form the outer, at last deciduous, margin of the cupule, somewhat below the top-margin. The outer staminodes, pressed against and partially in the stamens, are at first sessile, after flowering they become more slender and incurved. The basal glands, at first pressed together grow out to tepalous, sub-stipitate, free appendages of the filaments after flowering. In well-developed flowers the anther cells are distinctly introrse, but by lack of room or by compression, they often give the impression of being apical, even extrorse; the insertion of the valves at the top of the cells may give evidence of the real position of the cells.

10. *Acrodictidium guianense* Nees, Syst. (1836), p. 268; id. in Linnaea 21 (1848), p. 500; Meissn. in D.C., Prodr. XV, 1 (1864), p. 85; id. in Fl. Bras. V, 2 (1866), p. 173, cum var. β et γ , excl. var. δ et fig.; Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 97 t. II, f. 5, excl. cit. spec. Mélinon. 601; Dietrich, Synops. II (1840), p. 1345; Ducke in Arch. Rio de Janeiro V (1930), p. 112; Benoist in Bull. Soc. Bot. France 75 (1928), p. 976; id. in Arch. Bot. V (1931), p. 68; Kosterm. in Meded. Mus. en Herb. Utrecht 25 (1936), p. 36, 52, 63; id. in Pulle, Fl. Surin. II (1936), p. 322. — *Nectandra polyphylla* Nees, Syst. l.c., p. 322; Meissn. in D.C. l.c., p. 160; id. in Fl. Bras. l.c., p. 270; Mez l.c.; Kosterm. l.c. — *Nectandra caudata* Nees et Mart. in herb. Monac. ex Meissn. l.c.; Mez l.c.; Kosterm. l.c. — *Acrodictidium gracile* Huber in Bol. Mus. Para 6 (1909), p. 70; Ducke in Arch. Jard. Rio de Janeiro V (1930), p. 112; Kosterm. l.c.

Typus: Poiteau s.n.; French Guiana [Herb. Kunth in D.].

„Pisie” (Dutch Guiana)

Tree, up to 30 m. Branchlets slender, terete, densely rusty-tomentellous or tomentose, glabrescent; branches glabrous, dark-brown or grey; buds rusty-lanuginose or sericeous. Leaves alternate or sub-opposite, membranous, at last thin-chartaceous, lanceolate, elliptical or ovate-lanceolate, (6—) 9—10 (—13) $\times$ (1½—) 2—3 (—4½) cm, base usually shortly acute, top acuminate or cuspidate, acumen usually short, often up to 25 mm l., 5 mm w. at base; above glabrous, somewhat shining, midrib and prim. nerves filiform, prominulous, veins inconspicuous; beneath brownish, slightly pilose, glabrescent, dull, midrib prominent, prim. nerves (5—7 per side) prominulous, arcuately united, veins densely reticulate, hardly prominulous. Petioles thin, tomentellous, glabrescent, canaliculate, up to 8 mm l. Panicles axillary, pyramidal, rather many-flowered, few-branched, rusty-tomentose, up to 7 cm l., peduncles slender, compressed, 2 cm l., branchlets patent, up to 1 cm l., flowers 3—9 together. Pedicels slender, tomentellous, 2—4 mm l. Bracteoles lanceolate, outside tomentose, up to 2 mm l., deciduous. Flowers yellowish-white (Went), rusty-tomentellous, elongated cylindrical-urceolate, up to 3½ mm l.; tube sub-cylindrical, up to 2¼ mm l., densely hirsute inside, constricted at the top. Tepals nearly equal, fleshy, broadly ovate, acute, glabrous inside, up to ¾ mm l. Outer staminodes liguliform-foliaceous or spatulate, membranous or thickish, up to 1 mm l., shorter than tepals, pilose at base. Fertile stamens erect, usually slightly exserted, pressed against each other, 1 mm l., narrowly oblong-rectangular, anthers not distinct;

filaments glabrous inside, hirsute outside; cells small, apical, basal glands rather large, sub-stipitate, base hirsute, flattish. Fourth row of staminodes wanting. Ovary glabrous, ellipsoid, 1 mm l., style slender, $1\frac{1}{2}$ mm l., stigma minute.

Distribution: Guiana, Amazon Basin; Rio Negro.

French Guiana: Carouany, Mana (Sagot 1193 [U.P.Ms.Gr.DC.Kw.D.W.]); locality unknown (Perrottet 74 [Dl.P.DC.], Richard s.n. [P.], „*Laurus undulata* et *Ocotea glandigera*” mscr.). Dutch Guiana: Lower Coppename R. (Went 128, fl. Aug. [U.]); Kaboerie, tree 650 (B.W. 4852, 5904, fl. July [U.]); Tokomoetoe, (B.W. 5743, fr. Febr. [U., see adn. in Pulle, Fl. l.c., p. 323]; British Guiana: Pomeroon R. (Schomb. 1380, fl. Aug. [Kw.D.Bs.]; id. s.n. [Kw.]; Quito R. (Schomb. 567 [Kw.W.]); Roraima (Schomb. 749 [Ms.W.P.]). Brazil: Rio Negro, Coari (Martius s.n. [M.], type of *N. caudata* Nees and *N. polyphylla* Nees); Pará, Obidos (Ducke H. R. J. 19982, fl. July [U.R. Ws.St.]); Rio Couachy (Rio Capim), Pará (Huber, H.R.J. 19988, fl. July [R.D.], type of *A. gracile* Huber.).

11. *Acroclidium multiflorum* Kosterm. nov. spec.

Typus: Krukoff 5324, Brasilia: Rio Purus in regione fl. Rio Acre prope os fluminis Macauhan (Rio Yaco), lat. $9^{\circ} 20'$ S. long. 69° W. in terra firma, fl. m. Aug. [NY.].

Arbor 25 m. alta (Krukoff). Ramuli gracillimi dense ferrugineo-tomentelli rami cylindrici graciles fusco-cinerei; gemmae dense sericeae. Folia alterna chartacea elliptica, $7-10 \times 2\frac{1}{2}-3$ cm, basi acutata margine subrecurvula undulata apice distincte acuminate acumine lato usque ad 15 mm longo obtuso; supra viridia nitida glabra nervo mediano gracili prominulo costis vix prominulis venis minute dense reticulatis vel oblitteratis subtus opaca brunescentia sparse tomentella nervo mediano prominente costis utrinque 4—5 erecto-patentibus arcuatis saepe apicem versus arcuato-conjunctis venis vix conspicuis dense minute areolato-reticulatis. Petioli tenuissimi tomentelli 10—15 mm longi sub-canaliculati. Paniculae axillares pyramidales densae permultiflorae 5—10 mm longae dense ferrugineo-tomentellae pedunculo tenue compresso usque ad 3 mm longo ramis erecto-patentibus usque ad 2 cm longis. Pedicelli tenues dense ferrugineo-tomentelli 2—3 mm longi; bractae deciduae. Flores urceolati dense ferrugineo-tomentelli 1— $1\frac{1}{2}$ mm longi, $\frac{3}{4}$ mm diametro, tubo urceolato 1 mm longo et lato infra petala constricto intus sericeo perianthii segmentis aequalibus erectis carnosius ovatis acutiusculis intus glabris $\frac{3}{4}-1$ mm longis. Staminodia exteriora glabra $\frac{1}{2}$ mm longa sub-spathulata apice truncata mucronulata. Stamina fertilia subexserta glabra $\frac{3}{4}$ mm longa filamentis distinctis gracilibus antheris sub-orbiculari-

bus vel transverse ellipsoideis loculamentis majusculis extrorsis valvulis apice affixis glandulis basalibus sessilibus ellipsoideis dimidiam partam filamentorum aequantibus. Staminodia seriei quartae nulla. Ovarium ellipsoideum glabrum $\frac{3}{4}$ mm longum stylo gracile $\frac{3}{4}$ mm longum stigmate minuto. (fig. 1, p. 739).

Distributio: Brazilia, Rio Purus et Madeira.

Rio Acre, prope os fl. Macauhan (Krukoff 5324, fl. m. Aug.) [NY.U.St. Dl.D.] In civitate Humayata prope Livramento ad fl. Livramento (Krukoff 6900, fr. m. Oct. [NY.U.]). Cupula globosa laevis minute verruculosa simpliciter marginata fructum immaturum includens.

12. *Acrodictidium Pucheri* (R. et P.) Kosterm. nov. comb. — *Laurus Pucheri* Ruiz et Pavon, Fl. Peruv. IV (1794), t. 352 et Laurographica t. 25; Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 491. — *Nectandra limbata* Nees in Linnaea 21 (1848), p. 509, quoad cit. syn. *Laurus Pucheri* Ruiz; Meissn. in D.C., Prod. XV. 1 (1864), p. 156; id. in Fl. Bras. V, 2 (1866), p. 265, p.p., excl. syn. *Laurus limbosa* Ruiz.; Mez l.c. — *Aniba foeniculacea* Mez in Fedde, Rept. 3 (1906), p. 65.

Typus: Ruiz et Pavon s.n.; Peru in Andibus prope Vitoc [Madrid].

„Cuchirin” (Weberbauer), „Puchery” (Schunke).

Tree, 25 m (Weberbauer). Branchlets slender, sub-angular, dark, sparsely grey-sericeous; branches glabrous, smooth, substriate, grey; buds grey-sericeous. Leaves alternate, coriaceous, glabrous, shining and densely areolate-reticulate on both sides, especially beneath. elliptic, 12—16 $\times$ 3—6 cm, base acute, margin slightly recurved, top acute with blunt tip; above dark-green, midrib flattened, beneath brownish, midrib prominent, prim. nerves (8—10 per side) prominulous, erect-patent, arcuate. Petioles glabrous, rather slender. 10 mm l., canaliculate. Panicles axillary, sub-terminal, rather few-flowered, lax, pyramidal, sparsely, minutely sericeous, up to 8 cm l., peduncles short, compressed, branchlets patent, up to 3 cm l. Pedicels slender, slightly pilose, 9 mm l. Flowers broadly infundibuliform, glabrous, 2—3 mm l.; tube hemispheric, 1 mm h., glabrous inside; tepals erect, fleshy, ovate-orbicular, outer ones 1 mm diam., inner ones $1\frac{1}{2}$ mm l., margin submembranous. Outer staminodes glabrous, erect, linear-truncate or subspathulate, $\frac{3}{4}$ mm l. Fertile stamens $1\frac{1}{2}$ mm l., filaments distinct, puberulous at base, anthers ovate-triangular, base thickened and auricled extrorsely, cells extrorse, rather large, valves dehiscent from top to base, basal glands small, compressed, often united. Fourth row of staminodes none. Ovary ellipsoid, 1 mm l., style slender 1 mm l., stigma

minute. Berry (unmature) included in the cupule. Cupule hemispheric, verruculose, 12 mm high, 20 mm diam.; margin double, inner one thin, erect, 1 mm high; outer one erect, thicker, irregular. 2—3 mm h.; pedicel obconical, 7 mm diam. at the top. (fig. 2, p. 747).

Distribution: Peru, Dept. Junin.

Peru: Dept. Junin, Chanchamayo valley near la Merced, alt. 1000 m (Weberbauer 1890, fr. Dec. [D.], type of *Aniba foeniculacea* Mez); Carlos Schunke 262, fl. Sept. [F.]; near Vitoc (Ruiz s.n. [Madrid, Bs. Ms.]).

13. *Acrodictidium debile* Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 99; Benoist in Bull. Soc. Bot. France 75 (1928), p. 976; id. in Arch. Bot. V (1931), p. 66; Sandwith in Kew Bull. 1933, p. 337; Kosterm. in Meded. Mus. Utrecht 25 (1936), p. 52; id. in Pulle, Fl. Surin. 2 (1936), p. 319.

Typus: Patris 53; French Guiana [Dl.].

Small undergrowth tree or shrub, up to 8 m h., 5—10 cm diam. (Stahel, For. Bur.). Branchlets very slender, slightly compressed, rusty-tomentellous; branches terete, glabrous, brown or dark grey; buds densely rusty-tomentose. Leaves opposite, membranous or chartaceous, elliptic, (6—) 10—12 (—16) $\times$ (2—) 3—4 (—5½) cm, base acute or shortly acute, margin hardly thickened, top distinctly caudate-acuminate; glabrescent on both sides (with long-persistent hairs on midrib), reticulation prominulous, dense, especially beneath, prim. nerves (5—8 per side) rather patent, arcuately united at ½—1½ cm from the margin. Petioles slender, glabrescent, canaliculate, up to 7 mm l. Panicles very slender, axillary, usually opposite, sometimes internodal, rusty-pilose, glabrescent, few-flowered, few-branched, up to 8 cm l., peduncles slender, up to 5 cm l., with 2 lanceolate-linear, rusty-tomentellous, up to 4 mm l., deciduous bracts at the base. Flowers infundibuliform, nearly glabrous, white (For. Bur.), 2 mm l. in pseudo-umbels. Pedicels slightly pilose, thin, up to 4 mm l. Tube broadly obconical, merging into the pedicel, densely sericeous inside. Tepals scaly, ovate-orbicular or depressed-ovate, acutish or obtuse, erect, 1 mm l., the inner ones slightly longer. Outer staminodes membranous, ovate and ovate-spathulate, acutish or rounded, ¾ mm l. Fertile stamens included, erect, rather thick, 1 mm l., filaments not distinct, pilose at base, inside densely sericeous, except at the top, cells extrorse-apical; basal glands minute, membranous. Ovary ellipsoid, glabrous, 1 mm l., merging into the 1 mm l. slender style with minute stigma. Berry unknown. Cupule hemispheric, smooth, thin, 7 mm h., 15 mm diam., margin nearly simple, truncate, pedicel obconical, 8 mm l.,

3 mm w. at the top, merging into the cupule. (fig. 1, p. 739).

Distribution: Guiana.

French Guiana: locality unknown (Patris 53 [DC.D.]). Dutch Guiana: Brownsberg (B.W. 725, 6653, fl. Sept. [U.]). British Guiana: Kanaku Mts., near Nappi creek, Pirara R., alt. 200 m. (For. Bur. 2218, fl. Oct. [Kw.]); Kangaruma-Potaro landing, upland bush (Gleason 230, fr. June [Kw.]).

14. *Acrodiclidium Meissneri* Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 98 — *Acrodiclidium Guyanense*, var. *caudatum* Meissn. in D.C., Prodr. XV, 1 (1864), p. 85; id. in Fl. Bras. V, 2 (1886), p. 173, t. 59, quoad cit. spec. Spruce 3058; Mez l.c.

Typus: Spruce 3058; Brasilia, in ripis fl. Negro, San Carlos [Kw.].

Tree, 10 m (Spruce). Branchlets thin, slightly angular, minutely yellowish sericeous; branches terete, slender, dark, sparsely puberulous, glabrescent, dark-grey. Buds densely sericeous. Leaves opposite, chartaceous, narrowly ovate-lanceolata, 10—13 (—17) $\times$ 2—3 cm, base rounded-acute, margin slightly recurved, top caudate-acuminate (acumen slender, obtuse, 2—5 cm l.); above glabrous, greyish, somewhat shining, midrib thin, prominulous, veins obliterate, beneath dull, sparsely sericeous, brownish, midrib slender, prominent, prim. nerves (5—8 per side) prominulous, arcuately united, veins minutely areolate-reticulate or obliterate. Petioles thin, sparsely pilose, 6—10 mm l., canaliculate. Panicles slender, axillary or internodial, few-flowered, few-branched, lax, grey-sericeous, up to 5 cm l., peduncles thin, compressed, up to 3 cm l., branchlets patent, up to 1 cm l. Pedicels thin, grey-sericeous, 4 mm l. Flowers narrowly urceolate, grey-sericeous, 2 mm l., tube urceolate, slightly constricted below the tepals, 1 mm l.; tepals erect, glabrous inside, outer ones ovate-triangular, $\frac{3}{4}$ mm l., inner ones ovate, 1 mm l. Outer staminodes hirsute, slender, spatulate, 1 mm l. Fertile stamens exserted, $1\frac{1}{2}$ mm l., often confluent, filaments slender, densely hirsute; anthers nearly as narrow, ovate, obtuse, cells large, extrorse, valves dehiscent from base to top; basal glands flattish, elliptical, $\frac{3}{4}$ of the filament length. Fourth row of staminodes none. Ovary ellipsoid, glabrous, 1 mm l., immersed in the tube, style slender, $1\frac{1}{2}$ mm l., stigma minute. Berry (unmature) included in the enlarged tube.

Distribution: Brazil, Rio Negro.

Rio Negro, San Carlos, in ripis (Spruce 3058, fl. Aug. [Kw.Gr.Dr.W.NY.Ms. P.B.K.D.U.DC.Bs.St.]).

15. *Acrodiclidium aureum* Huber in Bol. Mus. Goeldi (Pará) VI (1910), p. 69.

Typus: Herb. Mus. Goeldi 9353; Brazil: Belem do Pará [Rio de Janeiro].

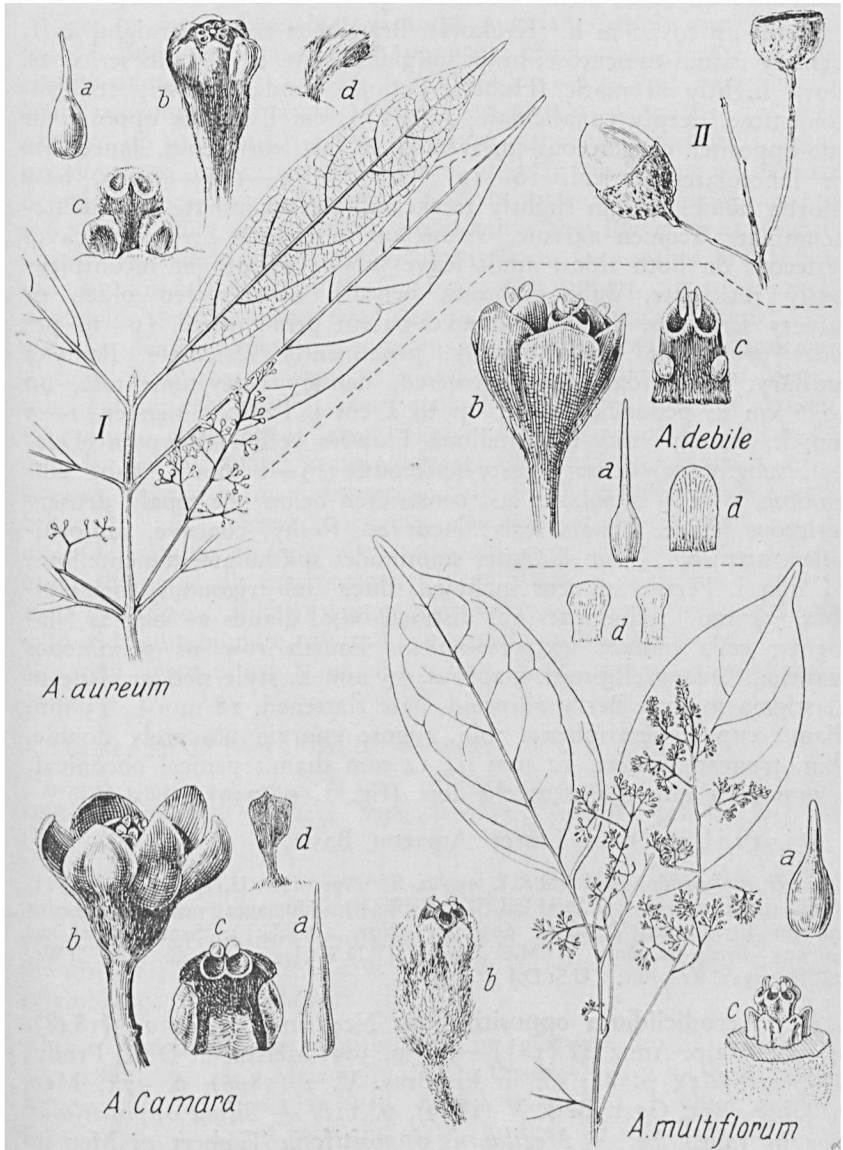


Fig. 1. *Acrodiclidium*; a. ovary; b. flower; c. fertile stamen(s); d. outer staminodes.

„Folha de ouro; Folha dourada” (Pará: Ducke, Huber).

Tree, up to 20 m h. (Krukoff). Branchlets terete, straight, stiff, densely rufous-tomentose; branches glabrescent, dark; buds sericeous. Bark slightly aromatic (Huber). Petioles slender, densely reddish-tomentose, deeply canaliculate, 1 (—1½) cm l. Leaves opposite or sub-opposite, chartaceous-coriaceous, at last coriaceous, lanceolate or lanceolate-elliptical, 10—12 (—17) × 2—3 (—6) cm, base shortly acute, margin slightly thickened, top acuminate or caudate-acuminate, acumen narrow, obtuse, up to 13 mm l.; young leaves sericeous on both sides; adult leaves above smooth or inconspicuously reticulate, dull, glabrous, beneath densely red-golden or silvery sericeous, midrib and erect-patent prim. nerves (5—12 per side) prominent, veins densely, prominently reticulate. Panicles axillary, pyramidal, many-flowered, densely rusty-tomentose, up to 6 cm l., peduncles short, up to 2 cm l. Pedicels slender, 1—3 mm l., densely rusty-tomentellous. Flowers yellowish-brown (Ducke), subglobose, densely rusty-sericeous, 1½—2 mm l.; tube subglobose, 1—1½ mm l., at last constricted below the tepals, densely sericeous inside. Tepals scaly, incurved, fleshy, concave, sub-orbicular, acutish, ½ mm l. Outer staminodes spatulate, tomentellous, ¾ mm l. Fertile stamens included, thick, sub-trigonus, tomentellous, ¾ mm l.; filaments not distinct, basal glands as long as filaments; cells minute, extrorse-apical. Fourth row of staminodes wanting. Ovary ellipsoid, glabrous, ½ mm l., style slender, ¾ mm l., stigma minute. Berry ellipsoid, base flattened, 18 mm l., 13 mm diam.; cupule hemispheric, thin, rugose, margin obscurely double, thin, truncate, entire, 12 mm h., 14 mm diam.; pedicel obconical, 6 mm l., 3 mm diam. at the top. (fig. 1, p. 739).

Distribution: Lower Amazon Basin.

Brazil: Belem do Pará (H.R.J. 19980, fl. Apr. [Kw.U.D.P.St.Ws.Bs.]; H. M. G. Huber 9353 [P.St.M.U.L.W.D.Bs.Ws.]); Humayta near Livramento on Rio Livramento (Krukoff 6936, fr. Nov. [NY.U.]); Santa Isabel on Railway Belem-Bragança (H.M.G. 10846 [P.D.Ws.]; 10180, fl. Febr. [Ws. D.P.]; 17521, fr. June [U.St.D.]).

16. *Acrodictidium oppositifolium* Nees in *Linnaea* 21 (1848), p. 500; Walp. *Ann.* III (1852—53), p. 309; Meissn. in *D.C.*, *Prodr.* XV, 1 (1864), p. 84; id. in *Fl. Bras.* V, 2 (1866), p. 173; Mez in *Jahrb. Bot. Gart. Berl.* V (1889), p. 110. — *Silvia oppositifolia* Mez in *Jahrb. l.c.* — *Mezilaurus oppositifolia* Taubert ex Mez in *Arb. Bot. Gart. Breslau* I (1892), p. 112; Kosterm. in *Meded. Bot. Mus. Utrecht* 25 (1936), p. 41. — *Mezia oppositifolia* O. Ktze ex Mez in *Arb. Bot. Gart. Breslau* l.c.

Typus: Schomburgk 1508; British Guiana, Roraima, Wayna R. [D.].

Tree or shrub. Branchlets straight, angular, densely rusty-tomentellous. Buds sericeous. Leaves opposite, chartaceous, ovate or lanceolate-ovate, (9—) 13—16 $\times$ (2½—) 4—6½ cm; base shortly acute or rounded, margin flattish, top caudate-acuminate (acumen narrow, up to 2 cm l.); above glabrous, rather dull, midrib filiform, prominulous, veins laxly reticulate, slightly prominulous, beneath densely sericeous-tomentellous, midrib prominent, prim. nerves 6—8 per side) erect-patent, prominent, the lower ones usually united. Panicles axillary, rusty-tomentellous, lax, rather few-flowered, pyramidal, up to 7 cm l., branchlets patent, up to 3 cm l., peduncles slender, compressed, up to 3 cm l. Pedicels slender, 2½ mm l., densely rusty-tomentellous. Flowers urceolate-cylindrical, densely rusty-tomentellous, 1½—2 mm l., about 1 mm diam.; tube cylindrical, hardly constricted, 1—1½ mm l., inside densely sericeous. Tepals equal, erect, fleshy, ovate-triangular, acutish, ½ mm l. and w. Outer staminodes usually abortive, often 1 or 2 present. Fertile stamens exserted, cylindrical, pressed against each other, ¾ mm l., erect; filaments sericeous, nearly as thick as the ovate-triangular anthers with extrorse large cells. Valves apical; basal glands hardly conspicuous. Ovary ellipsoid, glabrous, 1 mm l., style cylindrical, slightly longer with minute, truncate stigma. Berry ellipsoid, mucronulate, smooth, 15 mm l.; cupule hemispheric, thin, minutely verruculous, 8 mm h., 10 mm diam.; margin thin, simple, entire.

Distribution: British Guiana.

British Guiana: Roraima, Wayna R. (Schomburgk 765, fl. Oct. [W.D.C. D.L.Bs.]; 1508 [D.]); Lucky Spot, riverside (Persaud 195, fl., fr. Oct. [Kw.NY.]).

Now that the fruit is known, there is no doubt, that this species belongs to the genus *Acrodiclidium*. The lack of outer staminodes (which also occurs now and then with *A. salicifolium*) and of basal glands (this is also the case with *A. cayennense*) gives it some resemblance to *Mezilaurus*.

17. *Acrodiclidium salicifolium* (Sw.) Griseb. in Fl. Brit. W.I. isl. (1860), p. 280; Meissn. in D.C., Prodr. XV, 1 (1864), p. 85; Eggers, Fl. St. Croix in Vid. Medd. Nat. For. Kjöbnh. (1876), p. 143; id., Fl. St. Croix and Virg. in Bull. U.S.A. Nat. Mus. 13 (1879), p. 89, n. 720; id., Suppl. Fl. St. Croix in Vid. Medd. Nat. For. Kjöbnh. (1889), p. 19; Bello, Apuntes Puerto Rico in An. Soc. españ. Hist. nat., Madrid 12 (1883), p. 112, n. 757; Mez in

Jahrb. Bot. Gart. Berl. V (1889), p. 95; id. in Arb. Bot. Gart. Breslau I (1892), p. 111; Duss in Ann. Inst. Colon. Marseille 3 (1896), p. 299; Millspaugh, Fl. St. Croix (1902), p. 489; Britton in Contr. New York Bot. Garden 203 (1918), p. 47; Britton and Wilson, Fl. Porto Rico and Virg. isl. V (1924), p. 317; Urban, Symb. Antill. IV (1933), p. 243. — *Laurus salicifolia* Swartz, Fl. Ind. occ. II (1800), p. 709; Willd., Spec. pl. II (1799), p. 482; Spreng. Syst. veg. II (1825), p. 265; Nees, Syst. (1836), p. 290 in adn.; in Herb. Schott ex Nees, Syst. l.c., p. 254; Wikström in Kgl. Vet. Acad. Handl., Stockholm för 1827 (1828), p. 64; Mez in Jahrb. l.c.; id. in Arb. l.c.; Meissn. in D.C. l.c., p. 85; Britton and Wilson l.c.; Urban l.c. — *Aydenndron microbotryum* Nees, Syst. l.c., p. 254; Griseb., Veget. Karaib. (1857), p. 71, n. 581; id., Fl. Brit. l.c., p. 281; Meissn. in D.C. l.c., p. 85. — *Oreodaphne mucosa* Nees, Syst. l.c., p. 401; Meissn. in D.C. l.c., p. 133; Mez in Jahrb. l.c. — *Laurus parvifolia* Lam., Enc. méth. 3 (1789), p. 451 (*Laurus parviflora* Lam. sphalm. cit. a Mez in Jahrb. l.c.); Mez in Arb. l.c. p. 111. — *Laurus angustifolia* Willd. herb. 7810 ex Nees, Syst. l.c., p. 401. — *Laurier à petites feuilles* Nicolson, St. Doming. (1776) ex Lam. l.c.; Lam. l.c., p. 451. — *Laurus aestivalis* Pavon mscr. in Herb. Boissier.

Typus: Forsström s.n.; Guadeloupe [St.].

„Bois colique” (Guadeloupe: l’Herminier, Griseb.); „Canelillo, Canela, Canel” (Porto Rico: Sintenis); „Bois fourmi, Bois chique (Guadeloupe: Duss).

Small tree, 10—15 m, very aromatic (Sintenis). Branchlets slender, subterete, stiff, rusty-tomentellous; branches slender; terete, glabrous, smooth, grey; buds densely sericeous. Leaves alternate, coriaceous, lanceolate, 6—9 $\times$ 1½—2 cm (on sterile branchlets 17 $\times$ 4½ cm), base acute, margin slightly thickened, yellowish, top acute or slightly acuminate; above green, glabrous, shining, nerves yellowish, prominulous, densely reticulate; beneath brownish, dull, tomentose, glabrescent, midrib prominent, prim. nerves (12—15 per side) prominulous, rather patent, arcuate, upper ones united, veins prominulous, densely reticulate. Petioles slender, densely rusty-tomentellous, flattish above, 5—10 mm l. Racemes or raceme-like panicles axillary, sub-terminal, few-flowered, rusty-tomentellous, 1—1½ (—3½) cm l., peduncles short, slender. Pedicels slender, 1—1½ mm l. Flowers sub-campanulate, minutely sparsely tomentellous, 1½—2 mm l.; tube hemispheric, not constricted, nearly glabrous inside, 1 mm l.; tepals scaly, fleshy, incurved, glabrous inside, outer ones broadly ovate, acutish, ½—1 mm l., inner ones narrower, ovate-

suborbicular, acutish. Outer staminodes membranous, ligulaceous or sub-rectangular, usually irregular, $\frac{1}{2}$ mm l., glabrous, often 1 or 2 not developed. Fertile stamens thick, often confluent, included, $\frac{3}{4}$ mm l., base sericeous, filaments not distinct, cells extrorse-apical, dehiscent from base to top, basal glands orbicular, rather large, ($\frac{1}{2}$ of the stamen length), often united. Fourth row of staminodes none. Ovary ellipsoid, glabrous, $\frac{3}{4}$ mm l., style as long, slender, stigma minute. Berry ellipsoid, 10—15 mm l., 6—8 mm diam.; cupule minutely verruculous, hemispheric, thin, 4 mm h., 8 mm diam., margin double, outer one reflexed, inner erect, 1—1 $\frac{1}{2}$ mm h.

Distribution: Antilles from Porto Rico to Martinique.

Porto Rico: Mayaguez (Heller 4554, fr. Febr. [Ws.NY.Gr.D.L.Dr.]; Krug 1502 [D.]); Mayaguez, Guanajibo, serpentine slopes (Britton, Brown & Cowell 4340, fr. Febr. [Ws.NY.]); Cabo Rojo in woods near Guanajibo and Miradore (Sintenis 751, fr. Jan. [Dl.P.M.C.Gr.Bs.D.Ws.St.]); Bayamon in bush on sea-coast (Stahl 879, fl. May [D.L.St.]; Heller 404, fr. Febr. [Ws.D.NY.]); Bayamon, woods near Palo seco (Sintenis 1113, fl. March [P.C.D.Ws.St.M. Bs.Dl.Gr.]); Santurce, Stone Quarry, 2 min. E. (Heller 1302, fl. May, 1356, fl. May [F.Ws.D.St.K.NY.Kw.]); Cciba, wooded hillside (Britton & Shafer 1538, fl. March [Ws.NY.]); Fajardo (Britton & Shafer 1730, fr. March [Ws.F.NY.]); Arecibo (Britton & Britton 8975, fr. Nov. [NY.St.]); Coamo in valley of el Tendal (Sintenis 3165, fr. Dec. [M.D.U.B.L.Gr.W.Kw.St.P. Dr.Bs.Ws.NY.]); Coamo springs, banks of Amayo (Britton, Britton & Brown 5927, fr. Febr. [F.NY.Ws.Kw.]); Coamo springs, hillsides (Britton & Cowell 1354, fr. March [F.Ws.NY.]); Coamo, Ariba, hillside (Britton & Britton 9888, fr. Jan. [NY.]); Coamo springs, river banks (Britton, Britton & Marble 2322, fr. March [F.Ws.NY.]); From Juana Diaz to Coamo springs (Britton, Britton & Marble 2230, fr. March [F.Ws.NY.]); Martin Pena (Stevenson 1861, fl. Apr. [Ws.NY.]); Martin Pena, wooded limestone hill (Britton & Britton 7112, fr. Jan. [NY.]); Rincon in mountain woods near Hacienda Niève (Sintenis 5637 [D.]); Vega Baja (Stevens & Hess 4254, fl. Nov. [NY.]); Manati near Campo Alegre (Sintenis 6799, fr. May [Ws.D.B.NY. W.Dl.]); Naguabo, coastal woods at Guayacan (Sintenis 5485, fr. Sept. [D.Dr.]); Sardinera, coastal forest (Britton & Britton 8106, fl. March [NY.]); Penuelas in mountain forest Llano (Sintenis 4759, fl. July [K.Dl.D.L.]); Manabo in prim. forest, Mt. Malapascua (Sintenis 522 b [D.]); Manaba in field at Amajagua (Sintenis [P.]); locality unknown (Riedlé [P.Dl.]; Bertero 102 [DC.]; Puer s.n. [DC.]); Vieques isl.: Isabel Segunda to Martineau, 150 m., hillside, edge of wood (Shafer 2633, fr. Jan. [Ws.NY.St.]); Cerro Ventana among rocks, 150—340 m (Shafer 2973 [Ws.NY.]). St. Thomas: Baudin s.n. ex herb Desfont. [P.]. St. Croix: Hansen 177 [K.]. Crabben isl.: Swartz s.n. ex herb. Hornemann [K.]. St. Jan: Bordeaux Hill, 300 m (Eggers 3129; 3136 [K.]). Montserrat: Coll. unknown ex herb. Vahl (*Laurus angustifolia* Vahl mscr) [K.]. Antigua: Mt. Sugarloaf (Wulfschlaegel 745 [M.W.]). Guadeloupe: Port Louis, Morne Monroe (Duss 3382 [D.P.Ws.Gr.]); Morne Monroe (Duss 580, fr. Apr. [P.]); sea coast between Deshaies and St. Rose, Grands Fonds du Moulin (Duss 3197, fr. Apr. [NY.Ws.D.P.Gr.]); Anse Bertrand (!Herminier s.n. [P.Bs.]); locality unknown (Duchassaing s.n. [D.]; Griseb. s.n. [Kw.Ms.]; Read 634 [D.]; Forsström ex herb. Banks

[St.]; Baudier s.n., type of *Laurus parvifolia* Lam [Lm.C.]. Martinique: St. Anne, mornes calcaires (Duss 222 a [NY]); local. unknown (Plée 822 [P.]). Mexico?: ex herb. Pavon [Bs.].

Laurus elongata Vahl, published in West, Beskr. af St. Croix (1793), p. 282 and according to Eggers, Pl. St. Croix in Vid. Medd. Nat. For. Kjøbenhavn (1876), p. 143, identical with *Acrodictidium salicifolium*, is however a species of the genus *Phoebe*; I could study several specimens, bearing the name: *Laurus elongata* Vahl in his own handwriting in the Copenhagen herbarium.

Acrodictidium salicifolium, according to the shape of the cupule, belongs to the genus *Misanteca*; also in general habit, it differs from the other *Acrodictidium* species. But the presence of a row of outer staminodes makes it impossible to exclude this species from our genus. It was a remarkable fact, however, that I found several flowers without the slightest trace of staminodes. The same thing holds true for *A. oppositifolium*. There may be therefore some reason to combine these two genera, but this matter can be established only after I have studied the species of *Misanteca* too.

18. *Acrodictidium sericeum* Griseb. in Fl. Brit. W.I. isl. (1860), p. 280; Meissn. in D.C., Prodr. XV, 1 (1864), p. 86; Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 96; t. III, f. 19 et 36; id. in Arb. Bot. Gart. Breslau 1 (1892), p. 111; Duss in An. Inst. Colon. Marseille III (1896), p. 299. — *Acrodictidium Dominicense* Meissn. in D.C., l.c.

Typus: Imray s.n.; Dominica [G.].

„Bois Modong” (Martinique: Plée); „Bois pian(t)” (Martinique: Duss, Hahn); „Laurier gris” (St. Lucia: Ramage).

Tree, 6—20 m (Duss, Plée). Bark grey and smooth (Duss). Branchlets densely yellowish tomentellous, slender; branches glabrous, dark with rather large lenticels. Buds yellowish sericeous. Petioles slender, glabrescent, canaliculate, 6—8 mm l. Leaves alternate, chartaceous, at last coriaceous, lanceolate, 6—9 cm l., 1½—3 cm w; base acute, margin slightly recurved, top acuminate; young leaves slightly sericeous; adult ones glabrescent, above rather shining, green, midrib filiform, prominulous, veins invisible; beneath midrib slightly prominent, prim. nerves (7—12 per side) erect-patent, hardly prominulous, veins inconspicuous. Panicles axillary, yellowish-tomentellous, narrowly pyramidal, up to 6 cm l.; peduncles slender, up to 2 cm l., branchlets short. Pedicels slender, tomentellous, 3—4 mm l. Flowers yellowish tomentellous, sub-globose, 1½—2½ mm l.; tube sub-globose, top not constricted, inside den-

sely sericeous, tepals broadly ovate, acute, fleshy, incurved, equal, 1 mm l. Outer staminodes ovate, not or hardly constricted at base, glabrous, flat, $\frac{3}{4}$ mm l. Fertile stamens thick, slightly pilose, 1 mm l.; filaments not distinct, broad, with small, sub-basal glands; cells minute, extrorse-apical. Ovary subglobose-ellipsoid, glabrous, 1 mm l., merging into the conical, $\frac{1}{2}$ mm l. style with minute stigma. Berry sub-globose, smooth (sub-mature); cupule very thick, sparsely, minutely rusty-verruculose, warty, shining, hemispheric, 15 mm h., 22 mm diam. at base, 13 mm at top; margin truncate, obscurely double-margined.

Distribution: West Indian islands.

Dominica: locality unknown (Imray s.n. [G.Kw.NY.]). S. Lucia: Fonds St. Jacques (Ramage s.n. [Kw.], fl. March); locality unknown (Anderson ex Hb. Forsyth [Kw.]). Guadeloupe: locality unknown (Forsström [St.]; l'Herminier [Bs.]). Martinique: Forest of la Régale (Duss 1903, fl. June [NY.]); Hauteur du Grand Fond (Hahn 1370, fr. March [D.B.Gr.P.St. W.Ws.]); locality unknown (Plée s.n. [P.]).

19. *Acroclidium Mutisii* Kosterm. n. sp.

Typus: Mutis 1463; Colombia [Ws].

Arbor? Ramuli subteretes dense ferrugineo-tomentosi; rami teretes glabri fusco-cinerei gemmis dense tomentosis. Folia alterna chartacea elliptica 12—15 $\times$ 4 cm basi breviter acuta margine plana apice acuminata acumine graciliore obtuso 1—1 $\frac{1}{2}$ cm longo; supra viridia subnitidula glabra juvenilia tomentella nervo mediano costisque vix prominulis venis inconspicuis; infra brunnea tomentella nervo mediano prominente costis utrinque 5 arcuatis erecto-patentibus prominulis venis xiv conspicuis. Petioli tomentelli glabrescentes graciles 10—13 mm longi, sub-canaliculati. Paniculae axillares racemiformes pauciflorae dense ferrugineo-sericeae 5 cm longae pedunculo 1 cm longo. Pedicelli crassi 1—3 mm longi. Flores subglobosi dense ferrugineo-sericeo-tomentosi, 2—2 $\frac{1}{2}$ mm diametro, tubo hemisphaerico 1 $\frac{1}{2}$ mm longo intus sericeo perianthii segmentis intus glabris subincurvis carnosius exterioribus ovatis acutiusculis 1 mm longis interioribus latioribus. Staminodia exteriora membranacea glabra $\frac{1}{2}$ — $\frac{3}{4}$ mm longa ovata obtusa prope basi paullo constricta. Stamina fertilia sericea fere 1 mm longa inclusa filamentis indistinctis crassis, antheris ovato-triangularibus loculamentis majusculis extrorsis valvulis apice affixis. Staminodia seriei quartae nulla. Ovarium glabrum ellipsoideum 1 mm longum stylo crassiusculo 1 mm longo stigmate minuto. Fructus ignotus.

Distributio: Colombia.

Colombia (Mutis 1463 [Ws]); prope Icononzo (Dawe 36, ster. M. Jan. [Ws]).

Acroclididio Martiniano peraffinis sed florum magnitudine, tomento dense longiore, foliorum forma diversa est.

20. *Acroclidium brasiliense* Nees, Syst. (1836), p. 267; Meissn. in D.C., Prodr. XV, 1 (1864), p. 87; Benth. in Benth. et Hook., Gen. III (1880), p. 155; Dietrich, Synops. II (1840), p. 1345; — *Aydendron brasiliense* Meissn. in Fl. Bras. V, 2 (1866), p. 180, t. 64.

Typus: Martius s.n.: Pará, on Amazon R. and Rio Negro [M.].

Tree, 7—15 m. (Spruce, Krukoff). Branchlets slender, subangular, densely grey pulverulent-tomentellous; branches terete, slender, grey, smooth or slightly striate. Buds densely tomentellous. Leaves alternate, chartaceous, elliptic, 12—16 $\times$ 4—5½ cm, base acute or slightly acuminate, margin slightly thickened, yellowish, top distinctly acuminate (acumen obtuse, up to 2 cm l.); above shining, glabrous, midrib filiform, prominulous, prim. nerves hardly prominulous or slightly impressed, veins obliterate; beneath brownish, dull, tomentellous, midrib prominent, prim. nerves prominent (5 per side), arcuate, lower ones erect, upper ones often united, veins prominulous, laxly reticulate. Petioles slender, minutely tomentellous, canaliculate, 10—15 mm l. Panicles axillary, subterminal, pyramidal, densely rusty- or greyish sericeous-tomentellous, 4—6 cm l., densely flowered; peduncles short, slender. Pedicels 0—1½ mm l. Flowers yellowish (Ducke), sub-globose, densely sericeous-tomentellous, 1—1½ mm diam.; tube hemispheric-urceolate, 1 mm l., constricted below tepals, sericeous inside. Tepals scaly, incurved, fleshy, transversally elliptic, acutish, glabrous inside, ¾ mm w., ½ mm l. Outer staminodes subsessile, incurved, slightly pilose, ovate, top usually truncate, ½ mm l. Fertile stamens included, erect, thick, pilose, ¾ mm l., filaments not distinct, top truncate; cells small, extrorse-apical; basal glands distinct, ovate, often acutish, flat. Fourth row of staminodes none. Ovary ellipsoid, glabrous or pilose at base, ½ mm l., style slender, ½ mm l., stigma minute. (fig. 2, p. 747).

Distribution: Basin of Amazon R., from Rio Madeira to mouth.

Faro (Pará) on edge of not flooded woods (H.J.R. 19989, fl. Aug. [U.]); Rio Madeira, Borba near Urucurituba (Krukoff 5947, fl. Sept. [U.N.Y.]); Pará (Martius s.n. [St.M.D.]); Prov. Bara, Rio Negro (Spruce 1781, fl. Aug. [W.Gr.Dr.K.Bs.DC.NY.D.B.Dl.Kw.P.]); Manaos (Schwacke 3539, fl. July [D.]).

A fruiting specimen (Krukoff 6206, Humayta near Tres Casas,

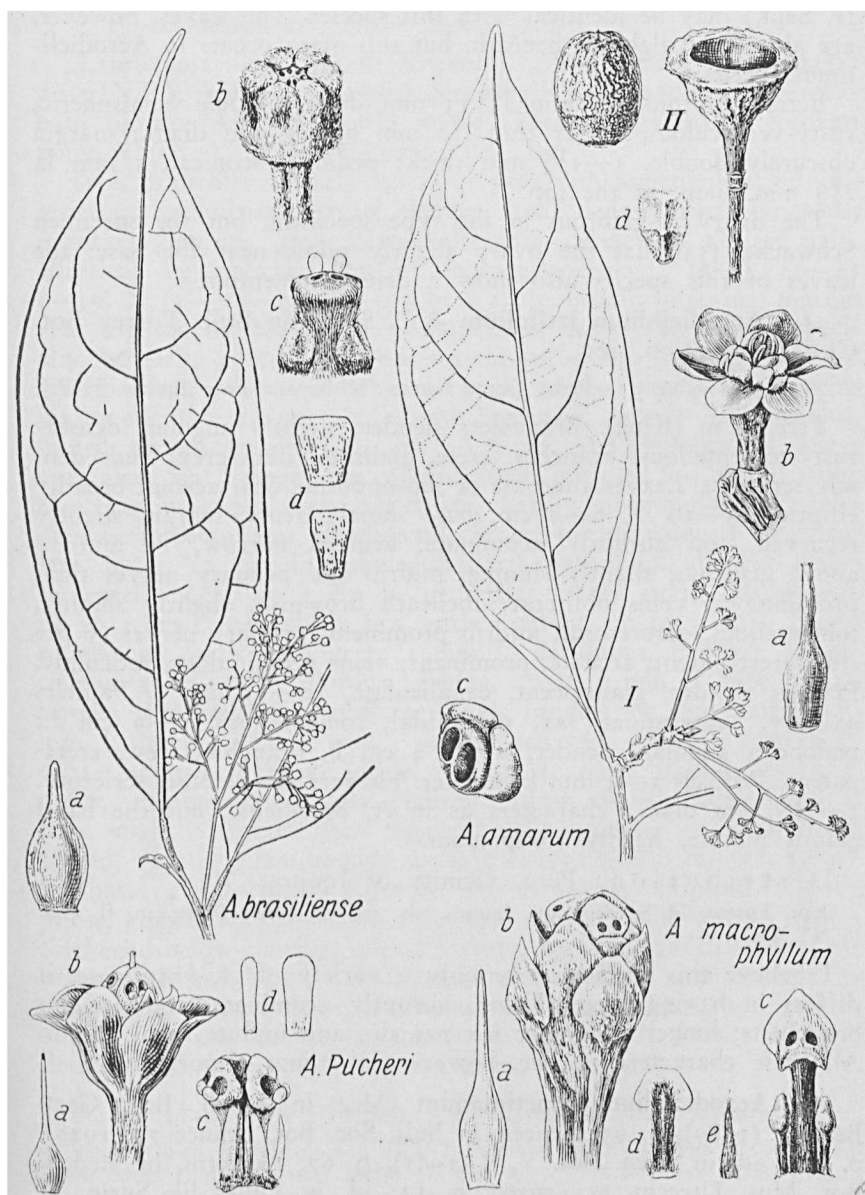


Fig. 2. *Acrodiclidium*; a. ovary; b. flower; c. fertile stamens; d. outer staminodes; e. inner staminode.

fr. Sept.) may be identical with this species. The leaves, however, are absolutely glabrous beneath, but this often occurs in *Acrodictidium* species.

Berry ellipsoid, 22 mm l., 13 mm diam. Cupule hemispheric, rusty-verruculous, rather thin, 10 mm h., 15 mm diam.; margin obscurely double, 1—1½ mm thick; pedicel obconical, 5 mm l., 2½ mm diam. at the top.

The ovary is glabrous in the type specimen, but the specimen Schwacke 3539 has the ovary slightly pilose near the base; the leaves of this species also show a denser tomentum.

21. *Acrodictidium latifolium* A.C. Smith in Bull. Torrey Bot. Cl. 58 (1931), p. 100.

Typus: Klug 30; Peru: Dept. Loreto, Mishuyacu near Iquitos [NY.].

Tree, 4 m (Klug). Branchlets slender, slightly angular, densely rusty-tomentellous; branches terete, glabrous, dark-grey; buds densely sericeous. Leaves alternate or sub-opposite, chartaceous, broadly elliptic, 13—19 × 6—9 cm, base shortly acute, margin slightly recurved, top abruptly acuminate, acumen narrow, 15 mm l.; above glabrous, slightly shining, midrib and primary nerves thin, prominulous, veins obliterate; beneath brownish, slightly shining, tomentellous, glabrescent, midrib prominent, primary nerves (5 per side) erect-patent, arcuate, prominent; veins prominulous, reticulate. Petioles slender, glabrescent, canaliculate, 10—15 mm l. Panicles axillary, subterminal, lax, pyramidal, tomentellous, 6—9 cm l.; peduncles angular, slender, up to 4 cm l., branchlets few, erect-patent. Pedicels 1—3 mm l., slender. Flowers sub-globose, sericeous, 1—1½ mm diam., characters as in *A. brasiliense*, but the basal glands minute, hardly conspicuous.

Distribution: Peru, vicinity of Iquitos.

¹ Dept. Loreto, Mishuyacu near Iquitos, alt. 100 m, forest (Klug 30, fl. Oct. [F.NY.Ws.]).

I believe this species to be only a variety of *A. brasiliense*, it differs in having larger leaves, abruptly acuminate; tomentellous branchlets; longer and more lax panicles and minute basal glands. All these characteristics are, however, of minor importance.

22. *Acrodictidium Martinianum* Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 93; Benoist in Bull. Soc. Bot. France 75 (1928), p. 976; id. in Arch. Bot. V, 1 (1931), p. 67; Kosterm. in Meded. Bot. Mus. Utrecht 25 (1936), p. 52; id. in Pulle, Fl. Surin. II (1936), p. 320. — *Acrodictidium foveolatum* Mez in Jahrb. l.c., p. 92; Benoist ll.cc., p. 976 et 66.

Typus: Mélinon 628; French Guiana [P.].

„Lauro amarillo” (Brazil: Krukoff). „Pisie (S.D.); Pisie, Magre pisie (N.E.); Apisie-ie (Saram.); Sirocaballi karowatsiamaro, Sirocaballi ojetak (Ar.); Topoprin wewe, Tataro sierwaballi, Jorokan pomoire (Car.)” (Dutch Guiana: For. Bur.).

Tree. Branchlets densely rusty- or yellowish tomentellous or sub-sericeous, cylindrical, rather slender; buds densely rusty-sericeous; branches glabrous, grey. Leaves alternate, coriaceous, at last rigid, elliptical or oblong, usually obovate-lanceolate, (8—) 12—15 (—19) × (2—) 4—6 (—9) cm; base acute, usually tapering, margin flat, top shortly acuminate; young leaves densely sericeous, especially beneath; adult ones above glabrous, green, shining, base of midrib often pilose; midrib and prim. nerves prominulous, veins laxly reticulate, obliterate; beneath brownish, densely sub-sericeous, midrib prominent, prim. nerves (5—7 per side) prominulous, lower ones ascendent, upper ones rather patent, more or less united along the margin, veins laxly reticulate, hardly prominulous. Petioles densely tomentellous, glabrescent, flat or inconspicuously canaliculate, up to 12 mm l. Panicles axillary, pyramidal, densely rusty-tomentellous, up to 7 cm l.; peduncles rather stout, compressed, up to 2 cm l.; branchlets few, rather patent, up to 3 cm l. Bracts ovate-acute, sericeous, up to 1 mm l., deciduous. Pedicels tomentellous, 1—3 mm l. Flowers globose, up to 2 mm l.; tube hemispheric, tomentellous outside, sericeous inside, not constricted, 1½ mm l.; tepals nearly equal, scaly, incurved, broadly depressed-ovate, acutish, glabrous inside; ½ mm l.; outer staminodes foliaceous, membranous, nearly glabrous, often slightly constricted at base, slightly shorter than tepals. Fertile stamens included, thick, united, slightly pilose outside, as long as tepals, cells minute, apically, basal glands large, pairwise united. Ovary ellipsoid, slightly pilose, glabrescent, 1—1½ mm l., style conical, papillose, ½ mm l., thickened below the top, stigma minute. Berry ellipsoid, light-green, smooth, 18 mm l., 11 mm diam., mucronulate; 9 mm covered by the cupule. Cupule thick, hemispheric, obscurely verrucous, 12—15 mm h., 17 mm diam., margin entire, 3—4 mm thick, obscurely double; pedicel 3 mm l., 4 mm diam.

Distribution: French and Dutch Guiana; Brazil.

French Guiana: Mélinon 628 [P.U.] and s.n. [P.D.F.], type of *A. foveolatum* Mez. Dutch Guiana: Sectie O, tree n. 758 (B.W. 1432 [U.R.]; 1645, fr. Febr. [U.Kw.]; 3089, fl. July [U.Ws.Kw.L.B.D.F.]; 3964, fl. Aug. [U.St.L.Dl.]; 4199, fr. Dec. [U.Ws.NY.Kw.R.L.F.]; 4407, fl. Sept. [U.B.L.P.I.]; 4485, fr. Dec. [U.Ws.NY.Kw.St.R.Br.]); Brownsberg, tree n. 1130 (B.W. 1691 [U.Kw.St.R.]; 4008, fl. Sept. [U.D.F.Br.]; 5291, fl. Oct. [U.St.

B.P.Dl.]; 6125, fr. Apr. [U.Ws.]; 6442, fr. March [U.]; 6794, fr. Febr. [U.NY.St.D.Br.Dl.]; van Emden s.n., fl. Sept. [U.Ws.NY.Kw.R.B.P.Br.]. Brazil: St. of Para, upper Cupary R., plateau between Xingu and Tapajoz R. (Krukoff 1152, fl. Sept. [D.Dl.Kw.NY.P.St.U.].

23. *Acrodictidium Aubletii* Kosterm. in Meded. Mus. en Herb. Utrecht 25 (1936), p. 34 f. 3, p. 52, 63; id. in Pulle, Fl. Surin. II (1936), p. 323. — *Licaria guianensis* Aubl., Guia. I (1775), p. 313, III, t. 121; Lamarck, Enc. 3 (1789), p. 470; Nees, Syst. (1836), p. 344, 658; Meissn. in D.C., Prodr. XV, 1 (1864), p. 259; id. in Fl. Bras. V, 2 (1866), p. 281 in adn.; Baillon, Hist. II (1870), p. 466; le Maout et Decaisne, Traité de Bot. II (1876), p. 474; Leunis, Synops. ed. 3 (1885), p. 488; Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 220, 378; Hallier in Meded. Herb. Leiden 35 (1918), p. 20; Gonggrijp in de Indische Mercur 23 Apr. 1920; Benoist in Bull. Soc. Bot. France 75 (1928), p. 979; id. in Arch. Bot. V (1931), p. 274; Ducke in Arch. Jard. Rio de Janeiro V (1930), p. 108; Lemée, Dict. 4 (1932), p. 85; Kosterm. l.c.

Typus: Aublet s.n.; French Guiana [Br.].

„Licari-Kanali” (Car.: Aubl.), „Bois de rose” (Aublet); „Kaneel pisie (S.D.), Nagrehoe doe (N.E.), Apisie-ie, Bosoho apisie-ie, Banba apisie-ie (Saram.), Sieroeaballi (Arow.), Atjarie kanarie, Joroha pomooire (Car.)”, (Dutch Guiana: For, Bur.).

Tree. Branchlets stiff, slender, nearly terete, densely rusty-tomentellous; branches glabrous, smooth, grey. Leaves alternate, chartaceous, at last rigid, elliptical or lanceolate-elliptical, (5—) 7—9 (—14) $\times$ (2—) $2\frac{1}{2}$ —3 (— $4\frac{1}{2}$) cm, base shortly acute, top caudate-acuminate, acumen up to 2 cm l., 5 mm w. at base; young leaves densely areolate above, sericeous beneath; adult ones above glabrous, green, shining, midrib filiform, sunken, prim. nerves idem, veins hardly conspicuous; beneath reddish-brown, sericeous-tomentellous, glabrescent, midrib prominent, prim. nerves (3—4 per side) prominent, arcuately ascendent, distinctly united at some distance from the margin, second. ones prominulous, lax, veins inconspicuous. Petioles slender, rusty-tomentellous, glabrescent, canaliculate, 1 cm l. Panicles axillary, pyramidal, few-branched, rather few-flowered, densely rusty- or reddish tomentellous, up to 8 cm l.; peduncles slender, terete, up to 3 cm l., branchlets patent, up to $1\frac{1}{2}$ cm l. Pedicels slender, tomentellous, 3 mm l. Flowers sub-globose, 2 mm l., tube conical, constricted below the tepals, tomentellous, 1 — $1\frac{1}{2}$ mm l. Tepals tomentellous outside, glabrous inside, incurved or erect, concave, thick, depressed-ovate, acute. Outer staminodes membranous, ovate, acute, glabrous, slightly shorter than tepals, inner row slightly constricted at the base. Fertile stamens included,

hardly $\frac{1}{2}$ mm l., anthers obtuse, cells apical, filaments pilose, nearly as broad and long as anthers, basal glands distinct, small, foliaceous. Ovary ellipsoid, pilose, hardly $\frac{1}{2}$ mm l., merging into the slender, half as long style, stigma minute. Berry ellipsoid, smooth 15 mm l., 9 mm diam., top flattened, $\frac{1}{3}$ covered by the hemispheric, sub-cylindrical, thin cupule with truncate, simple margin, with small rusty, few warts, fruiting pedicel obconical, 2 mm thick at the top.

Distribution: French and Dutch Guiana.

French Guiana: Cayenne (Patris s.n. [Dl.]); locality unknown (Aublet s.n. [Juss.]). Dutch Guiana: Zanderij I, tree 156 (B.W. 4365, fl. July [U.P.Br. Dl.St.NY.Ws.R.Kw.]; 1524 [U.]); Zanderij I (B.W. 6424 [U.], Samuels 536, fl. July [L.Ws.Kw.Gr.]); Watramiri, tree 1633 (B.W. 1923, fl. June [U.Br.St.]; 4706, fl. July [U.F.D.Dl.]).

24. *Acroclidium chrysophyllum* Meissn. in D.C., Prodr. XV, 1 (1864), p. 87; id. in Fl. Bras. V, 2 (1866), p. 175; Baillon, Hist. Pl. II (1870), p. 466; Benth. in Benth et Hook., Gen. Pl. II (1880), p. 155; Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 94; Benoist in Bull. Soc. Bot. France 68 (1921), p. 487; id. in n. 75 (1928), p. 976; id. in Arch. Bot. V (1931), p. 67, f. 2; Pittier, Pl. usual. Venezuel. (1926), p. 371 (?).

Typus: Sagot 956; French Guiana: Acarouany [P.].

„Sassafras” (Sagot); „Bois de rose, Bois de rose femelle” (Benoist).

Tree, wood aromatic (Sagot). Branchlets straight, thick, slightly angular, stiff, densely rusty-tomentose; branches terete, glabrescent, dark; buds tomentose. Bark somewhat astringent (Mez). Leaves opposite or sub-opposite, rigid-coriaceous, ovate or elliptic, 9—17 $\times$ 3 $\frac{1}{2}$ —7 $\frac{1}{2}$ cm (on sterile branches up to 23 cm l.), base shortly acute, margin slightly thickened, top acuminate (acumen obtuse, up to 3 cm l.); young leaves densely sericeous on both sides, areolate-punctulate; adult leaves above glabrous, shining, midrib and prim. nerves slightly prominent, veins densely areolate-reticulate, prominulous or obliterate; beneath densely rusty- or yellowish sericeous, tomentose, midrib and erect-patent prim. nerves (6—9 per side) prominent, veins prominulous, densely reticulate. Petioles thick, rusty-tomentose, deeply canaliculate, 10—15 mm l. Panicles axillary, rather few-flowered, pyramidal, rusty-tomentose, up to 6 cm l.; peduncles thick, up to 2 cm l. Pedicels thick, sulcate, densely rusty-tomentose, 3—4 mm l. Flowers sub-globose, densely rusty-sericeous, fulvous-yellow (Sagot), 3—4 mm l.; tube urceolate, sulcate, broad, slightly constricted below the tepals, 2—3 mm l., densely sericeous inside. Tepals broad, depressed-ovate, 1 mm l., 2 mm w., acute, fleshy, incurved, equal. Outer staminodes scaly,

ovate, fleshy, sub-orbicular, pilose, 1 mm l. Fertile stamens thick, pilose, erect, $1\frac{1}{2}$ mm l., 1 mm w., sub-trigonous; filaments not distinct, canaliculate, cells minute, extrorse-apical; basal glands large, flattish. Ovary ellipsoid, ovoid, 1 mm l., densely sericeous, merging into the conical, 1 mm l. style with minute stigma. Fruit unknown.

Distribution: French Guiana.

French Guiana: Acarouany in bush (Sagot 956, fl. Aug. [Ms.U.P.Bs.DC. Kw.W.D.St.B.]); Godebert (Wachenheim 317 [P.]).

25. **Acrodiclidium Appelii** Mez in Engl. Jahrb. 17 (1893), p. 519.

Typus: Glaziou 19778 p.p.; Minas Geraes, Quartel de Biribiry [D.].

„Canella” (Campos Porto).

Shrub (Schwacke). Branchlets rather thick, stiff, angular, densely rusty-tomentellous; branches stout, terete, glabrescent, grey, striate; buds densely grey- or rusty-sericeous. Leaves alternate, coriaceous, elliptic, $6-8 \times 2-2\frac{1}{2}$ cm, base acute or slightly acuminate, margin slightly thickened, top acutish or shortly acuminate, obtuse; above glabrescent, rather dull, microscopically areolate, midrib thin, prominulous, prim. nerves flat or impressed, inconspicuous, veins obliterate; beneath brown, densely aureo-sericeous, midrib prominent, prim. nerves (4—5 per side) erect-patent, arcuate, upper ones often united, prominulous, veins inconspicuous. Petioles rather thick, 1 cm l, densely tomentellous, slightly canaliculate or flat above. Panicles axillary and sub-terminal, dense, few-flowered, densely rusty-sericeous, 2—4 cm l., peduncles rather thick, short; branchlets few, up to 1 cm l. Pedicels rather thick, $1\frac{1}{2}-3$ mm l. Flowers densely rusty-sericeous, sub-globose, $2-2\frac{1}{2}$ mm l., tube hemispheric, $1\frac{1}{4}-2$ mm l., hardly constricted, densely hirsute inside. Tepals nearly equal, fleshy, glabrous inside, erect, broadly ovate, acute, $\frac{1}{2}-1$ mm l. Outer staminodes fleshy, densely sericeous, ovate-elliptic, slightly constricted, $\frac{3}{4}$ mm l. Fertile stamens included, thick, sub-rectangular, densely sericeous, filaments not distinct, cells small, extrorse-apical, dehiscent from base to top, basal glands distinct, sub-globose, sessile, $\frac{1}{2}$ of the filament length. Fourth row of staminodes none. Ovary ellipsoid, densely sericeous, 1 mm l., style slightly shorter, stigma minute. Berry unknown. Cupule pateriform-hemispheric, verruculous, 12 mm h., 20 mm diam., rather thick, with 2 irregular margins, inner one up to 3 mm h.; pedicel obconical, 4 mm l.

Distribution: Minas Geraes.

Minas Geraes, Quartel de Biribiry, near Diamantina (Glaziou 19778, p.p., fl. March [D.NY.Kw.P.Ws.B.]; Schwacke 7903 [D.]); Itatiaya (Campos Porto H.R.J. 11070 [U.R.]).

Species incertae sedis:

26. *Acrodictidium vernicosum* (Mez) Kosterm. nov. comb. — *Ocotea vernicosa* Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 331; Benoist in Bull. Soc. Bot. France 75 (1928), p. 978; Kosterm. in Meded. Mus. en Herb. Utrecht 25 (1936), p. 17; id. in Pulle, Fl. Surin. 2 (1936), p. 279. — *Oreodaphne Martiniana* Nees, var. *dubia* Meissn. in D.C., Prodr. XV, 1 (1864), p. 130.

Typus: Perrottet 75; French Guiana [Dl.].

Tree. Branchlets stiff, slender, glabrous, terete, dark-grey; buds nearly glabrous. Leaves alternate, coriaceous, glabrous, shining, obovate or elliptical, $10-14 \times 4-5\frac{1}{2}$ cm, base cuneate, margin hardly thickened, top distinctly acuminate (acumen broad, obtuse, up to 2 cm l., 8 mm w. at base), above midrib and prim. nerves prominulous or flat, veins prominulous, laxly reticulate or obliterate, beneath midrib prominulous, rather broad, prim. nerves (5-7 per side) prominent, patent, veins prominulous, laxly reticulate or sometimes obliterate. Petioles slender, very short, glabrous. Flowers unknown. Panicles small, axillary. Berry globose-ellipsoid, 17 mm diam. Cupule red, hemispheric, rather thin, smooth, 15 mm h., 20 mm diam., margin obscurely double, outer one truncate, 1 mm wide, inner one erect, thin, hardly 1 mm h.

Distribution: French and Dutch Guiana.

French Guiana: locality unknown (Perrottet 75 [Dl.DC.P.]). Dutch Guiana: Coppename R. (Boon 1213, fr. Oct. [U.]).

27. *Acrodictidium pachycarpum* (Meissn.) Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 91; Benoist in Bull. Soc. Bot. France 75 (1928), p. 976; id. in Arch. Bot. V (1931), p. 66. — *Aydendron pachycarpum* Meissn. in D.C., Prodr. XV, 1 (1864), p. 95; id. in Fl. Bras. V, 2 (1866), p. 186.

Typus: Perrottet 76; French Guiana [Dl.].

„Yellow silverballi” (Brit. Guia.: Appun).

Tree or shrub. Branchlets stiff, erect, rather thick, glabrous, grey, striate, sub-terete; buds sericeous. Leaves alternate, rarely sub-opposite, glabrous, somewhat shining (beneath less), coriaceous, elliptic, rarely lanceolate-elliptical, $14-19 \times 5-8$ cm, base shortly acute, margin slightly thickened, top acuminate (acumen narrow, obtuse), often rounded in older leaves; above midrib and prim.

nerves filiform, prominulous, veins hardly conspicuous, beneath brownish, midrib and erect-patent, slightly arcuate prim. nerves (5—8 per side) prominent, sec. nerves prominulous, veins hardly conspicuous. Petioles stout, glabrous, canaliculate, 15—20 mm l. Flowers unknown. Panicles short, axillary. Berry ellipsoid, mucronulate, 14 mm l., 8 mm diam. Cupule very thick, minutely rusty-warted, hemispheric, 15 mm h., 20 mm diam., obscurely double-margined, outer margin irregular, up to 15 mm thick, inner erect, hardly distinct, thin.

Distribution: French and British Guiana.

French Guiana: locality unknown (Perrottet 76 [P.U.]; Poiteau 60 [Ms.]);
British Guiana: Cuyounie, Massaroonie, Essequibo (Appun 12 [Kw.]).

Species excludendae:

Acrodictidium	anacardioides	Spruce ex Meissn.	= Mezilaurus
—	benense	Rusby	= Misanteca
—	Canelo	Rose ex A. C. Smith	= Misanteca
—	cinnamomoides	(H.B.K.) Mez	= Ocotea
—	elaeophorum	Barb. Rodr. ex Lecoite	= Ocotea
—	Gardneri	Meissn.	= Aiouea
—	geminiflorum	(Meissn.) Mez	= Phyllostemonodaphne
—	glabrum	F. S. Brandegee	= Misanteca
—	Ita-uba	Meissn.	= Mezilaurus
—	jamaicense	Nees	= Misanteca
—	Kunthianum	Nees	= Ocotea
—	limbosum	(Ruiz et Pavon) Mez	= Misanteca
—	mahuba	Sampaio	= Clinostemon
—	mexicanum	F. S. Brandegee	= Misanteca
—	misantlae	F. S. Brandegee	= Misanteca
—	Sprucei	Meissn.	= Mezilaurus
—	Wrightii	Meissn.	= Ocotea

PHYLLOSTEMONODAPHNE Kosterm. gen. nov.

Inflorescentia exinvolucrata paniculata pedunculata perpauciflora. Flores hermaphroditi pedicellati tubo nullo tepalis sub-aequalibus patentibus subsquamaeformibus. Stamina seriei primae sterilia in staminodia permagna foliacea mutata; seriei secundae et tertiae basi biglandulosa fertilia filamentis latis liberis antheris biloculatis seriei secundae introrsis seriei tertiae extrorso-lateralibus. Stamina seriei quartae parva. Ovarium superum; stylus ovario subbrevior. Cupula duplicimarginata. — Arbor vel frutex brasiliensis foliis sparsis chartaceis.

This genus links *Huberodaphne* Ducke with *Acroclidium* Nees. As in *Huberodaphne* only the outer row of stamens is transferred into large tepalous staminodes; it differs in being hermaphrodite and having glands at the base of the fertile stamens. From *Acroclidium* our genus differs in having only one row of stamens transferred into tepalous staminodes.

Phyllostemonodaphne geminiflora (Meissn.) Kosterm. nov. comb. — *Goeppertia geminiflora* Meissn. in D.C., Prodr. XV, 1 (1864), p. 175; id. in Fl. Bras. V, 2 (1866), p. 286, p.p., quoad cit. spec. Guillem. n. 231. — *Acroclidium geminiflorum* Mez in Jahrb. Bot. Gart. Berl. V (1889), p. 84, t. I, f. 8; id. in Arb. Bot. Gart. Breslau I (1892), p. 110. — ?*Mespilodaphne indecora*, var. *laxa* Meissn. in D.C., l.c., p. 103 id. in Fl. Bras. l.c., p. 196, p.p. — ?*Mespilodaphne indecora*, var. *Canella* Meissn. ll.cc.

Typus: Guillem. 231; Brasília in monte Corcovado prope Rio de Janeiro [P.].

Arbor parva vel frutex, 2—8 m altus. Ramulis gracilibus cine-

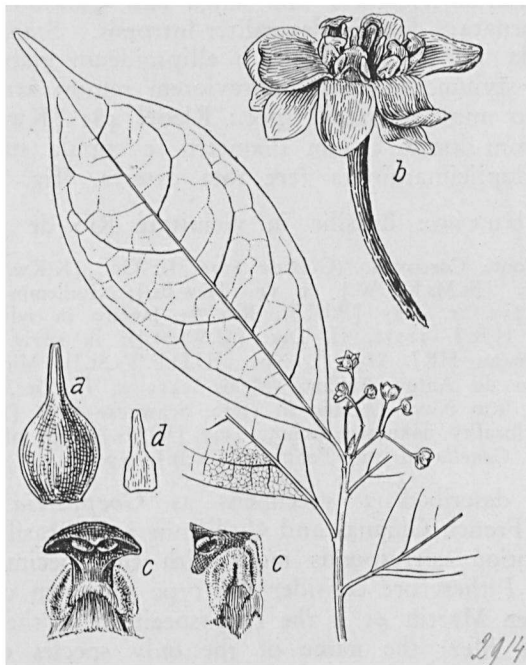


Fig. 3. *Phyllostemonodaphne geminiflora*.
a. ovary; b. flower; c. fertile stamen; d. outer staminode.

reis apice sparse minute puberulis adultis teretibus glabris substriatis; gemmis parce pilosis. Folia petiolis 5—9 mm longis gracillimis canaliculatis chartacea glabra elliptica vel lanceolato-elliptica basi acuta apice acuminata vel caudata acuminibus obtusis margine subplano 6—12½ cm longa, 2½—4½ cm lata penninervia supra laevia glaucescentia subtus prominulo-costata et dense prominulo-reticulata costis erecto-patentibus utrinque 5—7 spatio quodam a margine arcuato-conjunctis. Inflorescentiae axillares plerumque triflorae glabrae usque ad 5 cm longae subracemosae laxae pedunculis gracillimis usque ad 3 cm longis. Flores pedicellis gracillimis usque ad 1½ cm longis glabri carnei (Riedel, Kuhlman) 3—4 mm longi subcampanulati 6—7 mm diametro. Perianthii tubus nullus lobis aequalibus carnosus concavis suborbicularibus ovatis circiter 3 mm longis. Staminodia seriei primae lobis perianthii simillima. Stamina seriei secundae suborbiculari-ovata apice rotundata glabra foliacea carnosae 2 mm longa basi glandulis binis minutis introrsis planis praedita; antheris filamentis non distinctis loculis minutis introrsis. Stamina seriei tertiae glabra cylindrico-trigona 2 mm longa basi glandulis binis magnis extrorsis ornata; loculis lateraliter-introrsis. Staminodia seriei quarta nulla vel parva. Ovarium ellipsoideum glabrum 1½ mm longum in stylum conicum subbreviorem sensim attenuatum stigmate obtuso minuto. Bacca (spec.: Riedel 481 [Kw.]) ellipsoidea laevis 12 mm longa 8 mm diametro, e cupula subplana 1 cm diametro, duplicimarginata fere tota exserta. (fig. 3).

Distributio: Brasilia in vicinitate Rio de Janeiro.

Brasilia: Monte Corcovado (Glaziou 6016, fl. Oct. [K.Kw.D.P.St.]; Riedel 481, fl. Dec. [Bs.Ms.Kw.W.] et s.n. [Kw.Bs.]; Guillemín 231, fl. Dec. [Ms.DC.P.], 837, fr. May [P.Dl.]); Rio de Janeiro in sylvis circa urbem (Constantino, H.R.J. 11032, fl. Dec. [U.Ws.St.]); in silvis Trapicheiro ad urbem (Kuhlmann H.R.J. 889, fl. Nov. [U.D.F.Ws.St.]); Minas Geraes, Rio Branco Retiro de Anton Avelino (Mexia 5455 a, fl. Dec. [NY.Gr.Ws.]), Minas Geraes, Rio Novo (Araújo in Herb. Schwacke 6676 [D.], 8920 [D.], 10915 [P.]); locality unknown: Schott 4347 [W.Ms.], type of *Mespilodaphne indecora*, var. *Canella* Meissn.; Pohl s.n. [W.B.], p.p.

Meissner described 2 specimens as *Goeppertia geminiflora*: Martin 45 (French Guiana) and Guillemín 231 (Brasil, Corcovado). The description corresponds most with the specimen Guillemín 231, which I therefore consider the type specimen of his species. The specimen Martin 45 is the type specimen of the genus *Systemonodaphne* Mez; the name of the only species of this genus should therefore be altered and I propose to give it the name: *Systemonodaphne Mezii* Kosterm. nom. nov. The fruiting part of

the specimen of Pohl in the Brussels herbarium in my opinion belongs to a different species: the leaves are prominulous-reticulate on the upper surface.

Laurus geminiflora Desvaux in Hamilt., Prodr. Fl. Ind. occ. (1825), p. 37 does, according to the description, not correspond either with *Phyllostemonodaphne* or with *Systemonodaphne*.