

REVIEW OF SYMPLOCOS (SYMPLOCACEAE) FROM NEW CALEDONIA

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SUMMARY

A review is given of the new caledonian species of *Symplocos*, especially because the typification of the species is rather problematic, and in the 'Flore de la Nouvelle Calédonie' the way of citation of the synonyms does not make clear the typification of several names. For use of the not French reading public a key is given. No new names or combinations are published.

SYMPLOCOS Jacquin

Symplocos Jacquin, Enum. Pl. Carib. (1760) 5, 24; Select. Stirp. Amer. Hist. (1763) 166, t. 175, f. 68; Linné, Gen. Pl. ed. 6 (1764) 272; Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 428; Brand, Pfl. R. Heft 6 (1901) 13; Guillaumin, Bull. Soc. Bot. Fr. 71 (1924) 939; Mem. Mus. Hist. Nat. n.s. 8 (1959) 162; Noot., Leiden Bot. Series 1 (1975) 33; Fl. Nouv. Caled. 9 (1980) 135–158, figs. 33–37, maps 55–63. — Type: *S. martinicensis* Jacquin.

Bobu Adanson, Fam. Pl. 2 (1763) 88, 526; 'Bobua' Miers, J. Linn. Soc., Bot. 17 (1879) 302. — *Eugenioides* O.K. Rev. Gen. Pl. 2 (1891) 409, 975, *nom. illeg.* — Type: *Bobua laurina* DC.

Chasseloupia Vieill., Bull. Soc. Linn. Norm. 10 (1866) 101. — Lectotype: *Ch. lucida* Vieill.

History: Vieillard (1866) described the genus *Chasseloupia* in the *Barringtoniaceae* with 7 species, all based on the duplicates of his own collections kept in the herbarium of Caen (recently this herbarium is incorporated in P). A few months later Brongn. et Gris reduced *Chasseloupia* to *Symplocos* (1866). They not only published the new combinations, but some new species too, also based on *Vieillard* collections, this time on the duplicates in P. They distinguished 10 species in all.

Because Vieillard gave the collections of several plants together the same collection number, and because the types of Vieillard, and of Brongniart and Gris, often are not indicated as such, the typification is extremely difficult. In some cases part of a number is apparently later renumbered in Paris (but not the duplicates already distributed). And in some cases the same collection or species, part of one collection number, is also included in another number. On the sheets this is often indicated as f.i., 550 = 559. In this case as well *Vieillard* 550, as *Vieillard* 559 contain several different species, one of them they have in common.

All this resulted in much misunderstanding by Brand, who incorporated the new caledonian species in his monograph, and by Guillaumin (Annales du Musée Colonial de Marseille sér. 2, 9 (1911) 190, 191). Later Guillaumin published a 'révision des *Symplocos*', in the Bulletin de la Société Botanique de France 71 (1924) 939–946. After consultation of the type material in Paris, in Caen, and in the British Museum (2 species of S. Moore), he gave an enumeration of 16 species, of

which 3 new. Except for the new species he did not give full descriptions. Besides some remarks on the identity he cited several collections. From this I could conclude that Guillaumin made several mistakes. One of the species of Moore he even overlooked (*S. munda*); this species is conspecific which Guillaumin's new species *S. pancheri*! In 1959 Guillaumin published, in his 'contribution à la flore de la Nouvelle Calédonie' another two species. One species is described by Schlechter (*S. brandiana*, 1906), in his 'Beitrage zur Kenntnis der Flora von Neu-Kaledoniën', on his own collections.

Relations of the new caledonian species: From the shape of the seed and the embryo it appears that the taxa of New Caledonia are related to the New Guinean species, especially to *S. cochinchinensis* ssp. *leptophylla*. It is a matter of choice whether to treat them as varieties of the mentioned sub-species or as separate species. Intergradations may be due to hybridizing between species, or to the infraspecific level of the taxa involved. The New Caledonian taxa seem to be sufficiently separated, geographically from the New Guinean ones, and morphologically from each other, to treat them as species.

KEY TO THE SPECIES

- 1a. Twigs (in innovations) tomentellous or tomentose 2
- 1b. Twigs glabrous or pubescent 3
- 2a. Petiole longer than 1.5 cm 1. *S. arborea*
- 2b. Petiole shorter than 1.5 cm 3. *S. caerulescens*
- 3a. Leaves with cordate base 4
- 3b. Base of leaves not cordate 5
- 4a. Leaves longer than 9 cm 3. *S. caerulescens*
- 4b. Leaves shorter than 9 cm 5. *S. gracilis*
- 5a. Petiole shorter than 6 mm. Leaves 2.5–5.5 cm 6
- 5b. Petiole longer than 6 mm. Leaves longer than 4 cm 7
- 6a. Inflorescence a dense spike to 1 cm long. Disk annular or 5-glandular, glabrous, or rarely some hairs between the glands. Style cylindrical, glabrous, or rarely hairy at the very base 6. *S. montana*
- 6b. Inflorescence a lax raceme, more than 1 cm long. Disk annular or cylindrical, with pilose apex. Style with densely soft hairy conical base 7. *S. munda*
- 7a. Calyx limb 1–c. 1.5 mm. Style soft hairy at least for its lower half, with conical base 9. *S. tortuosa*
- 7b. Calyx limb 1–4 mm. Style glabrous or only hairy towards its base. Style base not conical, sometimes dome-shaped, soft hairy 8
- 8a. Leaves 7–21 cm. Nerves 8–15 pairs. Corolla 6–8 mm. Calyx lobes 1.5–3 mm. Disk flat or cylindrical 4. *S. flavescens*
- 8b. Leaves 4–18 cm. Nerves 5–10 pairs. Corolla 4–6.5 cm. Calyx lobes 1–2.5 mm. Disk flat or cylindrical, or- including style base?- dome shaped, hollow, surrounded by 5 glands 9
- 9a. Leaves 4–18 cm. Bracts and bracteoles 1.5–3 mm. Disk – including style base? – hollow, surrounded by 5 glands. Style glabrous, or hairy only towards its very base 8. *S. pseudonitida*
- 9b. Leaves 4.5–7 cm. Bracts 1–2 mm. Bracteoles c. 1 mm. Disk annular or cylindrical, hairy, surrounding the glabrous style 2. *S. baptica*

1. *Symplocos arborea* (Vieill.) Brongn. et Gris

- S. arborea* (Vieillard) Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 429; Brand, Pfl. R. Heft 6 (1901) 55; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 190; Bull. Soc. Bot. Fr. 71 (1924) 939; Noot., Fl. Nouv. Caled. 9 (1980) 138, fig. 33, map 55; — *Chasseloupia arborea* Vieillard, Bull. Soc. Linn. Normandie 10 (1866) 102. — *Bobua arborea* Miers, J. Linn. Soc., Bot. 17 (1879) 305. — *Eugenioides arborea* OK, Rev. Gen. Pl. 2 (1891) 975. — L e c t o t y p e: Vieillard 545 (P ex CN; iso G, K, P) bois des montagnes, Balade; s y n t y p e: Vieillard 545, sometimes labelled 545 = 546 (BR, G, MEL, NY, P) Wagap.
- S. vieillardii* Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 429; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 191. — *Bobua vieillardii* Miers, J. Linn. Soc., Bot. 17 (1879) 305. — T y p e: Vieillard 542 p.p. (P) prope Poila. Vieillard 542 from Wagap is the type of *S. caerulescens* Brongn. et Gris.

2. *Symplocos baptica* Brongn. et Gris

- S. baptica* Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 430; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 190; Bull. Soc. Bot. Fr. 71 (1924) 940; Noot., Fl. Nouv. Caled. 9 (1980) 142, fig. 36, map 56. — *Chasseloupia tinctoria* Vieillard, Bull. Soc. Linn. Normandie 10 (1866) 104. non *S. tinctoria* l'Her. — *Bobua baptica* Miers, J. Linn. Soc., Bot. 17 (1879) 305. — *Eugenioides baptica* OK, Rev. Gen. Pl. 2 (1891) 975. — L e c t o t y p e: Vieillard 547 (P, A, G) prope Balade.
- S. nitida* Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 430. — *Bobua nitida* Miers, J. Linn. Soc., Bot. 17 (1879) 305. — *Eugenioides nitida* OK, Rev. Gen. Pl. 2 (1891) 975. — T y p e: Vieillard 550 p.p. (P) prope Diaué.
- S. rotundifolia* Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 430; Brand, Pfl. R. Heft 6 (1901) 55; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 191; Bull. Soc. Bot. Fr. 71 (1924) 943. — *Bobua rotundifolia* Miers, J. Linn. Soc., Bot. 17 (1879) 305. — *Eugenioides rotundifolia* OK, Rev. Gen. Pl. 2 (1891) 975. — T y p e: Vieillard 549 p.p. (P) prope Diaué.
- S. baptica* Brand Pfl. R. Heft 6 (1901) 55 nom. ill. — *S. baptica* Brongn. et Gris var. β Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 430. — T y p e: Vieillard 546 (P) prope Balade.

N o t e : The collection *Deplanche 451bis* deviates by the larger bracts and the glabrous disk. The type of *S. nitida* Brongn. et Gris might be an anomalous specimen of *S. flavescens* Brand, or a hybrid between the two species. The same holds for the above mentioned collection of Deplanche.

3. *Symplocos caerulescens* Brongn. et Gris

- S. caerulescens* Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 429; Guillaumin, Ann. du Musée Col. de Mars. sér. 2, 9 (1911) 190; Bull. Soc. Bot. Fr. 71 (1924) 940; Noot., Fl. Nouv. Caled. 9 (1980) 144, fig. 34, map 57. — *Chasseloupia caerulescens* Vieillard, Bull. Soc. Linn. Normandie 10 (1866) 103. — *Bobua caerulescens* Miers, J. Linn. Soc., Bot. 17 (1879) 305. — T y p e: Vieillard 542 p.p. (P ex CN; iso G, GH, MEL, P) Wagap.
- Chasseloupia neocaledonica* Vieill., Bull. Soc. Linn. Normandie 10 (1866) 103, p.p. — *S. stravadioides* Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 428; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 191; Bull. Soc. Bot. Fr. 71 (1924) 943. — *Bobua stravadioides* Miers, J. Linn. Soc., Bot. 17 (1879) 304. — T y p e: Vieillard 541 p.p. (P ex CN; iso P) Balade.
- S. lenormandiana* Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 428; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 190; Bull. Soc. Bot. Fr. 71 (1924) 941. — *Chasseloupia neocaledonica* Vieillard, Bull. Soc. Linn. Normandie 10 (1866) 103 p.p. — *Bobua lenormandiana* Miers, J. Linn. Soc., Bot. 17 (1879) 305. — L e c t o t y p e: Vieillard 541 p.p., later numbered Vieillard 2920 (P ex CN; iso G, p). Habitat in Nova-Caledonia prope Wagap. Because no number is cited and no collections are named by the authors, it is not quite certain what they mean with this species. According to Quillaumin (1924): 'Brongniart et Gris ont décrit cette plante sous le nom de *S. lenormandiana*, mais aucun échantillon ne porte ce nom de leur main: ils ont écrit sur l'étiquette un autre nom spécifique qui est resté inédit.' Probably Guillaumin refers to the collections with the name *S. lancaefolia* Brongn. et Gris. (Vieillard AE (4) which bears no label of Guillaumin, and the l e c t o t y p e Vieillard 541 or 2920, one of the sheets bearing a determination label of Guillaumin with the name *S. lenormandiana*. Both collections are exactly resembling the type of *Chasseloupia neocaledonica* Vieillard (= *S. stravadioides* Brongn. et Gris).

- S. vieillardii* auct. non Brongn. et Gris: Brand, Pfl. R. Heft 6 (1901) 38, *pro collectione Balansa 2195* (P).
S. verticillata Brand, Pfl. R. Heft 6 (1901) 38; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 191; Bull. Soc. Bot. Fr. 71 (1924) 944. — T y p e: *Deplanche 452* (Brand cites 492) (K; iso G, P) sommet de Poebo. The same collection is also numbered *Vieillard 2926*.
S. defoliata Brand, Pfl. R. Heft 6 (1901) 41; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 190; Bull. Soc. Bot. Fr. 71 (1924) 940. — T y p e: *Pancher 56* (K; iso P).
S. brandiana Schlechter, Bot. Jahrb. 39 (1906) 227, non K. & G. (Jan. 1906); Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 190. — *S. oubatchensis* Rolfe, Kew Bull. (1912) 158 *in obs.* — T y p e: *Schlechter 15507* (BR, G, K, L, P, WRCL) auf den Berge bei Oubatche.

4. *Symplocos flavescens* Brand

- S. flavescens* Brand, Pfl. R. Heft 6 (1901) 55; Noot., Fl. Nouv. Caled. 9 (1980) 148, fig. 36, map 58. — T y p e: *Deplanche 493* (K; iso G, P).
Chasseloupia lucida Vieillard, Bull. Soc. Linn. Normandie 10 (1866) 102. — *Bobua lucida* Miers, J. Linn. Soc., Bot. 17 (1879) 305. — *Eugenioides lucida* OK., Rev. Gen. Pl. 2 (1891) 975. — *S. lucida* Guillaumin, Bull. Soc. Bot. Fr. 71 (1924) 941, non S. & Z. nec Wall.. — L e c t o t y p e: *Vieillard 559* (P).
S. calophylloides S. Moore, J. Linn. Soc., Bot. 45 (1921) 355. — *S. nitida* auct. non Brongn. et Gris: Guillaumin, Bull. Soc. Bot. Fr. 71 (1924) 942. — T y p e: *Compton 1154*, (K, a fragment in P) Mt Canala.

5. *Symplocos gracilis* Brongn. et Gris

- S. gracilis* Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 431; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911); Bull. Soc. Bot. Fr. 71 (1924) 940; Noot., Fl. Nouv. Caled. 9 (1980) 150, fig. 33, map 59. — T y p e: *Vieillard 544* (P) arbuste montagne de Balade. Pouebo.

6. *Symplocos montana* Brongn. et Gris

- S. montana* Brongn. et Gris, Bull. Soc. Bot. Fr. 13 (1866) 430; Brand, Pfl. R. Heft 6 (1901) 56; Guillaumin, Ann. Musée Col. Mars. sér. 2, 9 (1911) 190; Bull. Soc. Bot. Fr. 71 (1924) 942; Noot., Fl. Nouv. Caled. 9 (1980) 152, fig. 35, map 60. — *Chasseloupia montana* Vieillard, Bull. Soc. Linn. Normandie 10 (1866) 104. — *Bobua montana* Miers, J. Linn. Soc., Bot. 17 (1879) 305. — *Eugenioides montana* OK, Rev. Gen. Pl. 2 (1891) 975. — L e c t o t y p e: *Vieillard 551* (P ex CN, P, G, K).
Chasseloupia microphylla Vieillard, Bull. Soc. Linn. Normandie 10 (1866) 104. — T y p e: *Vieillard 551 bis* (P).
S. amosensis Guillaumin, Mém. Muséum Nat. d'Hist. Nat. n.s. 8 (1959) 162. — T y p e: *Mackee 4733* (P, iso K, L) Col d'Amos, summit, alt. 400 m.

7. *Symplocos munda* S. Moore

- S. munda* S. Moore, J. Linn. Soc. Bot. 45 (1921) 415; Noot., Fl. Nouv. Caled. 9 (1980) 154, fig. 35, map 61 — T y p e: *Compton 1338* (K, a fragment in P) Canala.
S. pancheri Guillaumin, Bull. Soc. Bot. Fr. 71 (1924) 942. — L e c t o t y p e: *Vieillard 2925* (P, K) Mont Mou.

N o t e: Although Moore describes disk and style as being glabrous, they are hairy according to my observations. The collection *Däniker 1776* deviates by the leaves becoming c. 10 cm long, and by the very slender inflorescence.

8. *Symplocos pseudo-nitida* Guillaumin

- S. pseudo-nitida* Guillaumin, Bull. Soc. Bot. Fr. 71 (1924) 943; — Noot., Fl. Nouv. Caled. 9 (1980) 156, fig. 37, map 62. — *S. nitida* auct. non Brongn. et Gris: Brand, Pfl. R. Heft 6 (1901) 49. — L e c t o t y p e: *Vieillard 550 p.p.* (P; BR, G, K, L, MEL, NY, W) in montibus circa Wagap.

9. *Symplocos tortuosa* Guillaumin

- S. tortuosa* Guillaumin, Bull. Soc. Bot. Fr. 71 (1924) 944; Noot., Fl. Nouv. Caled. 9 (1980) 157, fig. 37, map 63. — Lectotype: Vieillard 2922 (P, K) Wagap.
S. montis-fontium Guillaumin, Mem. Muséum Nat. Hist. Nat. n.s. 8 (1959) 163. — Type: Mackee 5329 (P; iso K, L). Plateau below Montagne des Sources.

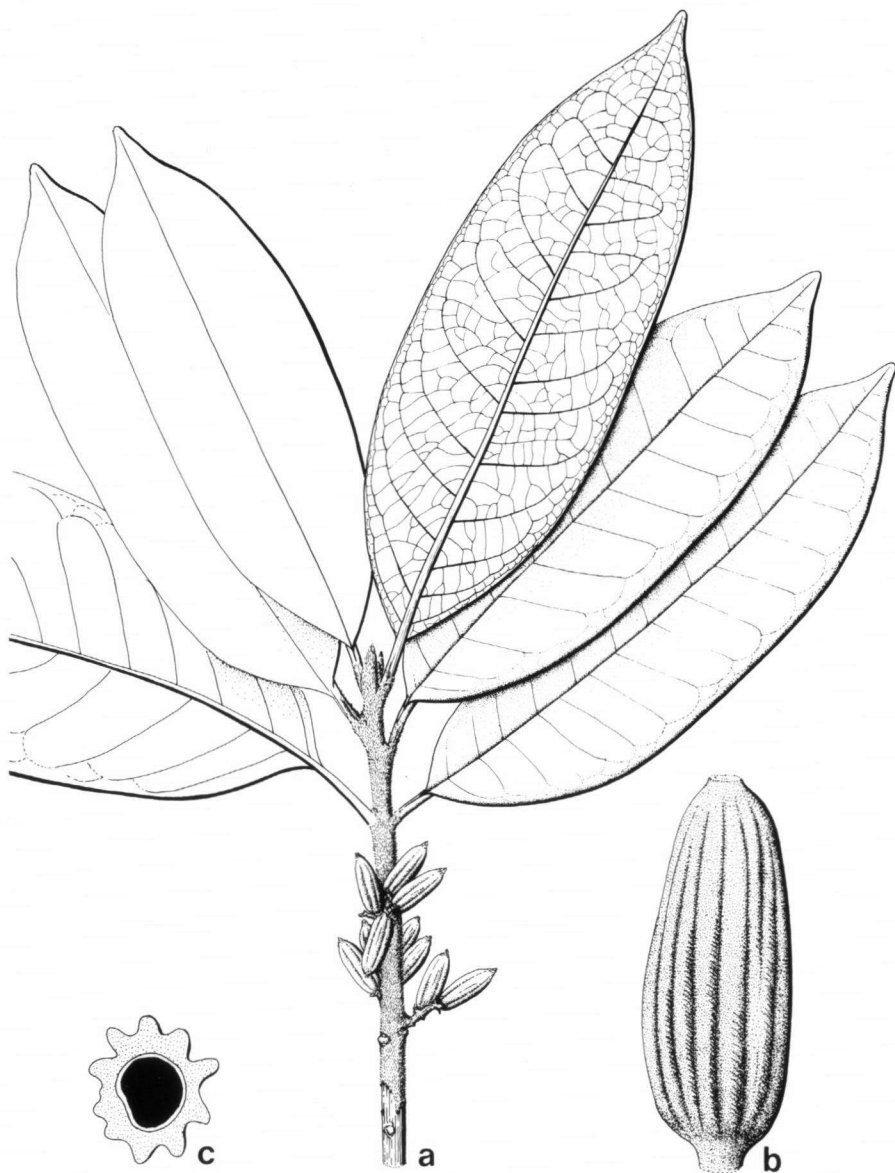
INCOMPLETELY KNOWN TAXA

The collections *Balansa* 2197 (P), *Mackee* 9884 (L, K, P) and *Mackee* 21211 (P) possibly represent a new species. All three collections are in fruit, and therefore I refrain to describe a new taxon.

The same holds for the collections *Bernardi* 9427 and *Veillon* 267. These plants are undoubtedly related to *S. flavescens*, but the leaves are dark brown s.s. and the fruits hairy.

IDENTIFICATION LIST

- Aubréville-Heine* 75: 1.
Balansa 1346: 2; 2067: 3; 2110: 4; 2195: 3; 2196: 3; 2198: 4; 2199: 2; 2200: 7; 2200a: 7; 2201: 1; 2799: 7; 3032: 1; 3235: 1; 3236: 6; 3269: 5; 3548: 7. *Baumann-Bodenheim* 162: 9. *Bernardi* 9469: 7; 9739: 3; 9741: 1; 9973: 2; 10028: 1; 10037: 9; 10040: 8; 10250: 6; 10316: 6; 12481: 7; 12649: 6. *Bernier* 54: 1. *Blanchon* 177: 8; 192: 7. *Brousmitche* 533: 8; 536: 7; 1107: 7.
Compton 1154: 4; 1338: 7; 1847: 6. *Cribs* 1529: 4.
Däniker 1759: 2; 1784: 7. *Deplanche* 54: 5; 56: 5; 313: 6; 451bis: 2; 452: 3; 453: 4; 547: 7.
Franc 317: 4; 680: 9; 777: 9.
Godefroy 49: 4; 337: 3; 436: 9.
Hürlimann 3350: 7; 3399: 4.
Lecard 11: 4; 28: 3125: 1. *Le Rat* 153: 7; 191: 7; 727: 5; 974: 3; 1070: 9; 1078: 4; 2292: 7; 2821: 7; 2861: 7.
Macdaniels 2404: 7. *Mackee* 3252: 7; 3687: 4; 4175: 7; 4411: 7; 4444: 3; 4498: 7; 4659: 4; 4675: 4; 4709: 3; 4733: 6; 4769: 2; 4808: 3; 4822: 6; 4937: 1; 5327: 7; 5329: 9; 5352: 9; 5658: 2; 6420: 3; 6439: 3; 6443: 6; 7908: 6; 8195: 4; 10022: 3; 10112: 1; 11938: 4; 12044: 3; 12203: 9; 12355: 1; 12572: 1; 12618: 3; 12644: 4; 12666: 9; 12671: 1; 12720: 2; 12782: 1; 12864: 3; 13216: 9; 13244: 3; 13458: 8; 13707: 3; 13826: 3; 14577: 2; 14737: 9; 15110: 2; 15335: 2; 15642: 9; 15693: 3; 15885: 7; 16577: 7; 17018: 2; 17408: 1; 17752: 1; 18024: 3; 18048: 3; 18087: 3; 18675: 2; 19175: 3; 19228: 1; 19984: 2; 19993: 3; 20047: 3; 20545: 4; 20821: 7; 21381: 4; 21586: 9; 21940: 6; 21942: 6; 22868: 7; 23290: 7; 23777: 5; 23798: 2; 23859: 8; 23890: 2; 23992: 1; 24026: 2; 24679: 4; 24876: 7; 25372: 9; 25377: 3; 25564: 1; 25679: 6; 26420: 3; 26428: 7; 26700: 3; 26742: 3; 26743: 3; 26747: 2; 26839: 9; 27045: 7; 27538: 7; 27753: 4; 28427: 3; 28735: 7; 42874: 7.
Pancher 56: 3; 60: 7; 70A: 6; 100: 4. *Petit* 51: 4.
Sarlin 113: 1; 189bis: 1; 247: 7. *Schlechter* 15507: 3; 15575: 3; 15659: 3. *Schmid* 384: 1; 457: 3; 1191: 9.
Stauffer & Blanchon 5758: 2.
Thiebaut 311: 3. *Thorne* 28327: 4.
Veillon 207: 3; 214: 8; 593: 3; 708: 4; 2936: 2; 3020: 4. *Vieillard* AE 1: 1; AE 2: 1; AE 3: 3; AE 4: 3; AE 5: 9; 282: 5; 541: 3; 542 (= 2919) p.p.: 1; p.p.: 3; 544: 5; 545 p.p.: 1; 546 p.p.: 1; p.p.: 7; p.p.: 2; 547: 2; 548: 2; 549 p.p.: 7; p.p.: 9; 550 p.p.: 2; p.p.: 4; p.p.: 8; 551, 551bis: 6; 552: 6; 559 p.p.: 4; p.p.: 6; 2920: 3; 2918: 3; 2921: 9; 2922: 9; 2923A: 8; 2924: 4; 2925: 7; 2926: 3.
Webster & Hildreth 14920: 2.



Symplocos columbuli Nooteboom. — a. Habit, $\times \frac{1}{2}$; b. stone of fruit, $\times 3$; c. crosssection through stone, $\times 3$, all from the type.