

A TAXONOMIC REVISION OF THE GENUS *SCOTTELLIA* OLIV. (FLACOURTIACEAE)

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SUMMARY

The author presents a taxonomic revision of the genus *Scottellia* on the basis of the materials found in the herbaria most important for tropical Africa. The 15 taxa described previously were reduced to 3 species (with 1 variety), whilst 1 species had to be excluded from the genus.

In the course of his revision of the *Flacourtiaceae* of Africa the author had also to deal with the small genus *Scottellia* which is found mainly in the western part of tropical Africa (Fig. 1). The genus has been treated previously in part in local floras, but has never been revised as a whole since its publication by Oliver about 80 years ago. The present revision is based on a MS. elaborated at Berlin-Dahlem in 1936, i.e. before the destruction of the Berlin herbarium, and furthermore on the collections recently seen from the following herbaria: Berlin (B, after 1943), Bruxelles (BR.), Hamburg (HBG), Kew (K), Leiden (L), London (BM), Munich (M), Oxford (FHO), Paris (P), Wageningen (WAG), and Zürich (Z). The author wishes to express his sincerest thanks to the directors and colleagues of these institutions; his work has been subsidized by the Netherlands Foundation for the Advancement of Tropical Research (WOTRO) at The Hague.

The apparent high variability in *Scottellia* was originally the reason for the description of 15 species; there is an increasing uncertainty in naming the numerous recent collections. With herbarium specimens alone it is difficult to evaluate the importance, i.e. constancy, of characters usually applied in the genus for the delimitation of its species. Fortunately, Tisserant & Sillans (1953) have published their field observations on the variability of *Scottellia* in the Oubangi-Chari area. They found 'un manque de constance' in foliar characters (form, size, texture, and dentation of leaves). As to floral characters, only small differences in the form, size, and degree of hairiness of the scales at the inner side of the petals are mentioned. A certain constancy is stated for fruit characters, i.e. size of the fruit and the number of its seeds.

If fruit characters are used, then *Scottellia orientalis* can be well distinguished from *S. leonensis* and *S. klaineana*. *S. leonensis* can be separated from *S. klaineana* less reliably by certain leaf-characters (size of lamina, shorter and thicker petioles) and a generally more stoutish rachis. The remaining *S. klaineana*-complex can be divided still less clearly on the basis of \pm overlapping leaf and flower characters into 2 taxa at the level of mere varieties, as done before by Pellegrin (1953). Each of these comprises a number of morphologically much intergrading forms to which no taxonomically satisfactory status can be given. Their ecological range, according to the scanty notes on herbarium labels, comprises swamp forest, rain forest, gallery forest, and forest edges with savannahs. It is not yet clear, whether these forms are geographical, i.e. locally constant races, or represent ecotypes bound to similar ecological niches.

SCOTTELLIA

Oliv. in Hook., Ic. Pl. 23 (1893) t. 2265; Pierre, Bull. Soc. Linn. Paris, n.s., n. 13 (1899) 110; *ibid.* n. 14 (1899) 113; Gilg, Bot. Jahrb. 40 (1908) 445; in Engl., Pflanzenw. Afr. 3, 2 (1921) 561; in E. & P., Nat. Pflfam. ed. 2, 21 (1925) 394; Hutch. & Dalz., Fl. W. Tr. Afr. ed. 1, 1 (1927) 159; Tisserant & Sillans, Bull. Soc. Bot. Fr. 99 (1953) 286 in text; Pellegrin, Mém. Soc. Bot. Fr. 1952 (1953) 108; Keay in Hutch. & Dalz., Fl. W. Tr. Afr. ed. 2, 1 (1954) 186; Tisserant & Sillans, Not. Syst. 15 (1954) 94; Bamps in Fl. Congo, Rwanda & Burundi, Sperm. Flacourt. pt. 1 (1968) 9. — Type: *S. leonensis* Oliv.

[*Dasypetalum* Pierre ex Cheval., Vég. Ut. Afr. Tr. Fr. 9 (1917) 55, in syn. *Scottellia*.]

Shrubs or trees. *Leaves* persistent, alternate, entire or with shallow teeth, penninerved, glabrous, often finely tuberculate on both faces; petiole thickened at both ends; stipules none. *Inflorescences* axillary or subterminal, consisting of 1 or mostly of several racemes, these arranged to pseudopanicles or umbel-like fascicles; pedicels from several minute, ± caducous, subtriangular bracts. *Flowers* bisexual, or polygamous-monoecious, i.e. partly in the same raceme (generally the lower ones) ♂ only, white or cream, often strongly scented. *Sepals* (4 or) 5, free, imbricate, subequal, suborbicular, thin. *Petals* 5, imbricate, similar in size to the sepals but often thinner (membranous) and more distinctly veined, each provided at the base inside with a free or basally adherent, scale-like, hairy appendage. *Stamens* 5, alternating with the petals; filaments linear-subulate, glabrous, about twice as long as the anthers, these ovate-elliptic, bifid or subcordate at the base, basifixed, longitudinally dehiscent, the connective enlarged. *Ovary* free, much attenuate at the base to shortly stipitate, unilocular, with 3 parietal multiovulate placentas, attenuate to short trifid style. *Capsule* splitting into 3 finally ± reflexed valves; pericarp coriaceous to almost woody, pustular or verruculose outside, smooth or wrinkled inside; seeds 1—3 (rarely up to 10), subglobular or inequally obtusely angular, smooth, glabrous, covered by a thin bright red or orange-red aril; testa coriaceous; endosperm copious, fleshy; cotyledons foliaceous; radicle straight.

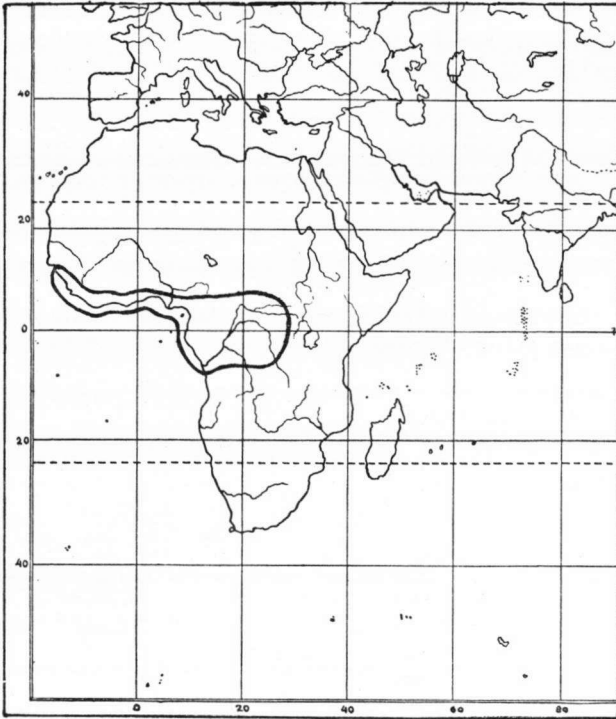
A genus of 3 species in (mainly western) tropical Africa (see Map).

E c o l o g y. Understorey tree or shrub in rain forest, sometimes locally dominant, also in riverine or gallery forest, swamp forest, and forest edges with savannahs.

U s e s. The wood of *Scottellia klaineana* is said to be hard, but is used mainly locally. See Kribs, For. Woods Amer. Market (1950) 75 f. 136; Lebacqz & Dechamps, Contr. Invent. For. Nord-Kasai (1967) 372.

KEY TO THE SPECIES

1. Fruit in the dry state (10—)12—15(—18) mm in diam.; pericarp thick (1—1.5 mm), almost woody; seeds generally 3—5(—10). (Leaves coriaceous, 7—19(—21) by 4—9(—12) cm. Racemes stoutish, 8—16 cm). *S. Nigeria*, *S. Sudan*, *Centrafrican Rep.*, *Zaire (Bas-Katanga, Centr. For. Distr., Ubangi-Uele)*
 1. *S. orientalis*
1. Fruit (3—)4—8 (very rarely up to 9) mm in diam.; pericarp thin (0.5—1 mm), ± coriaceous; seeds generally 1 or 2 (rarely 3).
 2. Leaves rigidly coriaceous, base rounded to subcordate, 8—21 by 5—12 cm; petiole 4—7 by 1.5—2 mm. Racemes rather stoutish. *Port. Guinea*, *Guinée*, *Sierra Leone*, *Liberia* 2. *S. leonensis*
 2. Leaves subcoriaceous to coriaceous, ± flexible, base rounded to cuneate; petiole in general more slender. Racemes slender.
 3. Leaves 5—10(—12) by 3—5 (rarely —6) cm. Sepals with rather obscure longitudinal nerves. *Sierra Leone*, *Liberia*, *Côte d'Ivoire*, *Ghana*, *Nigeria*, *Cameroon*, *Equat. Guinea*, *Centrafrican Rep.*,



- Gabon, Congo-Brazzaville, Zaire (Mayumbe, Bas-Zaire, Kasai, Bas-Katanga, Centr. For. Distr., Ubangi-Uele, Lake Kivu), N. Angola 3. *S. klaineana* var. *klaineana*
 3. Leaves (10—)12—16 by 6—9 cm. Sepals with distinct (in dry specimens darker) longitudinal nerves. Sierra Leone, Ghana, Côte d'Ivoire, Nigeria, Cameroon, Zaire (Bas-Zaire), Angola
 3. *S. klaineana* var. *mimfiensis*

1. *Scottellia orientalis* Gilg, Bot. Jahrb. 40 (1908) 447, f. 1 F (fr.); in Engl., Pflanzenw. Afr. 3, 2 (1921) 561, f. 248 F (fr.); in E. & P., Nat. Pflfam. ed. 2, 21 (1925) 394, f. 166 F (fr.); Bamps, Fl. Congo, Rwanda & Burundi, Sperm. Flacourt. pt. 1 (1968) 10. — *S. kamerunensis* auct., non Gilg: De Wildem., Pl. Bequaert. 5 (1932) 406; Evrard, Bull. Soc. R. Bot. Belg. 86 (1953) 10 p.p.; Mullenders, Publ. I.N.E.A.C., Sér. Scient., n. 61 (1954) 477. — *S. schweinfurthii* Gilg [ex Cheval., Ét. Fl. Afr. Centr. Fr. (1913) 20, nom. nud.] ex Tisserant & Sillans, Bull. Soc. Bot. Fr. 99 (1953) 286, descr. abbrev.; ditto 100 (1953) 7, descr. ampl.; Not. Syst. 15 (1954) 96. — *S. macrocarpa* Tisserant & Sillans, Bull. Soc. Bot. Fr. 100 (1953) 7, f. p. 8; Not. Syst. 15 (1954) 95. — *S. chevalieri* auct., non Chipp: Evrard, Bull. Soc. R. Bot. Belg. 86 (1953) 9 p.p. — *S. leonensis* auct., non Oliv.: Evrard, Bull. Soc. R. Bot. Belg. 86 (1953) 9. — *S. mimfiensis* auct., non Gilg: Keay in Hutch. & Dalz., Fl. W. Tr. Afr. ed. 2, 1 (1954) 186 p.p. (syntype excl.).

Tree (10—)15—40 m, trunk 30—100 cm in diam., fluted. Branchlets terete, brownish, practically glabrous, lenticels sparse. Leaves oblong to obovate-elliptic, rarely subovate-oblong, apex rather abruptly and obtusely acuminate, base broadly cuneate to rounded,

coriaceous, shining, entire or remotely undulate-crenate to -subserrate, 7—19(—21) by 4—9(—12) cm, nerves 6—8 pairs, slightly raised above, markedly so beneath, reticulation more obvious above than beneath; petiole 1—2(—2.5) cm. *Racemes* solitary, spreading from the upper 1—4 axils (these very close together, and the upper 1 or 2 ones leafless), forming together an abbreviated, almost umbel-like panicle, puberulent or glabrous in all outer parts; rhachis slender (*c.* 1 mm across), 8—16 cm; pedicels slender, 5—10 mm in anthesis, up to 15 mm in fruit. *Sepals* suborbicular-obovate, ciliolate, 3—4 by 2—3 mm. *Petals* obovate, ciliolate, 4—5 by 2 mm, the basal inner densely hairy appendage 1—1.5 mm. *Anthers* 2 mm. *Ovary* 5-costulate, glabrous or with rather sparse hairs; style 0.5 mm. *Fruit* subglobular, (10—)12—15(—18) mm in diam., glabrous, valves much spreading; pericarp 1—1.5 mm thick, ± ligneous, finely verrucose outside, smooth and lustrous with much elevated placentas and several transverse elevated lines inside. *Seeds* (1—)3—5 (—10), subglobular-angular, 5—6 mm in diam.

NIGERIA. Benin, Iyek Distr., Sapoba F. R., along Jamieson R., *FHI 45508 Emwiogbor, Kennedy 397 B, 1866, 2041, 2781, 2782, 2807, 2817.*

SUDAN. Equatoria, Niam-Niam, Juru R., *Schweinfurth 3341* (B, type of *S. orientalis*, †).

CENTRAFRICAN REP., Chari, Dar-Banda Or., entre Ndellé et le Kaga Rindi, *Chevalier 7222* (P, type of *S. schweinfurthii*). N'Gotto, *Guignon 2060* (P). Haut Oubangui, Yalinga, *Le Testu 3576, 4245*. Région de Bambari, *Tisserant 937, 1111, 1287, 1642, 2376, 2842*. Mbaiki-Boukoko, *Tisserant 2015, 2066, 2094, 2118, 2238* (P, type of *S. macrocarpa*), *2375, 2454, 2530.*

ZAIRE. Bas — K a t a n g a. Gandajika, *Liben 2651, Risopoulos 583*. Kamina, *Herman 2160*; Kindele, 1000 m, *Desenfans 1998*. — D i s t r. F o r e s t. C e n t r. Gemena, entre Libenge et Gemena, *Lebrun 1849*; Mbongo, *Evrard 1782*. Businga, Bongabo, *Gilbert 1873*; Bobakarawa, *Evrard 563*; Bosambala, *Evrard 667*. Budjala, Likimi, *Malchair 460*; Boyakoko, *Evrard 1637*. Bumba, Yambata, *De Giorgi 1376*; Dundusana, *Mortehan 442, 823*. Basankusu, *Dubois 412*; Djombo, *Mengé 22, 81*. Befale, *Evrard 3189, 4303, 5106*. Boende, Tshuapa, *Dubois 538, 607, 724, Evrard 4016*; Bongoy, *Evrard 3204*. Monkoto, Loile, *Evrard 4462*. Isangi, Yangambi, *Germain 30, 440, Louis 11969 bis, 11990, Maudoux 459*; Yambao, 470 m, *Evrard 2092, Louis 8955, 10838*; Ligasa, *Germain 4512*; Yafolo, *Germain 52*; Yakusu, 470 m, *Germain 266*. Bondo, *Lebrun 2426*. Buta, Madabu, *Gérard 2549*. Bambesa, *Gérard 616, 2257, 4378, 5132, 5404*. Paulis, Nala, *Boone 11*. — U b a n g i — U e l e. Businga, Bodangabo, *Evrard 292*; Ango, Digba-Basape, 700 m, *Germain 684, 4475*; Tukpwo, *Gérard 1190*. Poko, Amadi-Goko, *Lebrun 3064*. Dungu, *Leclercq 291*; Doruma, *De Graer 41 bis, 734.*

E c o l o g y. Mainly in riverine and swamp forest, also in gallery forest, generally at low altitudes, rarely up to 1000 m.

N o t e. Similar in leaf-texture to certain forms of *S. klaineana* var. *klaineana* which are difficult to distinguish from *S. orientalis* by leaf and flower characters alone; this is especially the case in Nigeria (Benin: Jamieson R. area) where both species occur, as may be concluded from fruiting specimens.

2. *Scottellia leonensis* Oliv. in Hook., *Ic. Pl. 23* (1893) t. 2265; Dur. & Schinz, *Consp. Fl. Afr. 1* (1898) 225; Pierre, *Bull. Soc. Linn. Paris, n.s., n. 14* (1899) 113; Gilg, *Bot. Jahrb. 40* (1908) 445; Engl., *Pflanzenw. Afr. 3, 2* (1921) 561; Gilg in E. & P., *Nat. Pflfam., ed. 2, 21* (1925) 394; Hutch. & Dalz., *Fl. W. Tr. Afr. ed. 1, 1* (1927) 160; Keay in ditto ed. 2, 1 (1954) 186. — *Dasylepis leonensis* (Oliv.) Warb. in E. & P., *Nat. Pflfam. ed. 1, 3, 6a* (1893) 15. — *S. macropus* Gilg & Dinklage, *Bot. Jahrb. 40* (1908) 445, f. 1 A-E; Engl., *Pflanzenw. Afr. 3, 2* (1921) 561, f. 248 A-E; Chipp, *Kew Bull. (1923) 265*; Gilg in E. & P., *Nat. Pflfam. ed. 2, 21* (1925) 394, f. 166 A-E.

Tree, 6—20(—50 ?) m tall, trunk up to 30 cm in diam., bark blotching. *Branchlets* glabrous, lenticels rather obscure. *Leaves* elliptic to oblong, more rarely ovate- or obovate-elliptic, apex shortly (0.5—1 cm) obtusely acuminate or sometimes rounded, base rounded to subcordate, rigidly coriaceous, glabrous, (sub)entire, 8—17(—21) by 5—8(—12) cm,

nerves (6—)7—9 subregular pairs, rather straight from the midrib, looping before the edge, slightly raised above, more distinctly so beneath, as is the rather dense reticulation; petiole robust, 4—7 by 1.5—2 mm. *Racemes* 1—3 from each of the upper 2—4 approximate defoliate axils, often forming an umbel-like \pm terminal pseudopanicule; rhachis rather stoutish (\pm 1.5 mm), puberulent, 10—17 cm, the flowers solitary or often geminate; pedicels rather slender, puberulent, 4—6(—8) mm at anthesis, more robust and up to 11 mm in fruit. *Sepals* suborbicular or broadly obovate, thin, almost glabrous, c. 4 mm. *Petals* obovate, glabrous outside, with a few hairs inside, long-ciliate, 4—5 mm, the basal appendage densely long-hairy, 1.5—2 mm. *Anthers* 2 mm. *Ovary* smooth, shortly stipitate-attenuate, glabrous or with a few hairs at the base. *Fruit* subglobose, c. 7 mm across; pericarp coriaceous, c. 0.5 mm thick, finely verrucose outside, less distinctly so inside. *Seeds* 1 or 2, obtusangular, c. 5 mm in diam.

PORTUG. GUINEA. Bafatá, *Espiritu Santo* 3317, 3597. Gabu, Fonte de Pitche, *Espiritu Santo* 3492, 3779. GUINÉE. Dalaba, *Chillou* 3197. Mayon-Ouré, *Chillou* 1728.

SIERRA LEONE. Samu country, Luseniya, Hangha, *Aylmer* 605, *Scott Elliott* 4065 (K, type of *S. leonensis*). Lawloi, *Burbidge* 605. Gegbwema, *Deighton* 3821. Kamakwie, *Deighton* 4181, Kegga, *Adams* 104. LIBERIA. Monrovia, Dupont, *Voorhoeve* 9, 1238, *Linder* 1503. Devilbush, Paynesville, *Voorhoeve* 421. Gran Bassa, Fishtown, *Dinklage* 1958 (B, type of *S. macropus*, \dagger), 2008, 2089. Jotokwelli, Medina, *Linder* 1300. Sinoe country, Greenville, *de Wilde & Voorhoeve* 3789. Gbanga, *Linder* 1194. Peantah, *Linder* 1112.

E c o l o g y. In coastal swamp forest, or edge of brackish water, also in coastal savannah bush up to c. 1.5 km inland.

3. *Scottellia klaineana* Pierre, Bull. Soc. Linn. Paris, n.s., n. 14 (1899) 113; Gilg, Bot. Jahrb. 40 (1908) 448; Cheval., Vég. Ut. Afr. Trop. Fr. 9 (1917) 56; Engl., Pflanzenw. Afr. 3, 2 (1921) 561; Pellegrin, Mém. Soc. Bot. Fr. 1952 (1953) 108, incl. var. *kamerunensis* (Gilg) Pellegr. l.c. 109; Tisserant & Sillans, Bull. Soc. Bot. Fr. 99 (1953) 286, in text; Not. Syst. 15 (1954) 96; Raponda-Walker & Sillans, Pl. Ut. Gabon (1961) 182.

var. *klaineana*

S. kamerunensis Gilg, Bot. Jahrb. 40 (1908) 447; Engl., Pflanzenw. Afr. 3, 2 (1921) 561; Gilg in E. & P., Nat. Pflfam. ed. 2, 21 (1925) 394; Hutch. & Dalz., Fl. W. Tr. Afr. ed. 1, 1 (1927) 160; Aubrév., Fl. For. Côte d'Ivoire 3 (1936) 8, t. 245 4—5; Evrard, Bull. Soc. R. Bot. Belg. 86 (1953) 10 p.p. — *S. coriacea* Cheval. [Vég. Ut. Afr. Trop. Fr. 5 (1909) 147, *nom. nud.*; Bot. Afr. Occ. Fr. 1 (1920) 39, *nom. nud.*] ex Hutch. & Dalz., Fl. W. Tr. Afr. ed. 1, 1 (1927) 160; Kew Bull. (1928) 31; Kennedy, For. Fl. S. Nigeria (1936) 30; Keay in Hutch. & Dalz., Fl. W. Tr. Afr. ed. 2, 1 (1954) 187; Irvine, Woody Pl. Ghana (1961) 81; Keay, Onochie & Stanfield, Niger. Tr. (1964) 97; Bamps, Fl. Congo, Rwanda & Burundi, Sperm. Flacourt., pt. 1 (1968) 10. — *Dasypetalum klaineanum* Pierre ex Cheval., Vég. Ut. Afr. Trop. Fr. 9 (1917) 55, *nom. subnud.* — *S. thyrsiflora* Gilg in Mildbr., Wiss. Ergebn. Deutsch. Zentr.-Afr. Exp. 1910—1911, 2 (1921) 561, *in obs.*; Engl., Pflanzenw. Afr. 3, 2 (1921) 561, *in clavi.* — *S. polyantha* Gilg in Engl., Pflanzenw. Afr. 3, 2 (1921) 561, *in clavi* ('*polyantho*'). — *S. gossweileri* Exell, J. Bot. 70 (1932) Suppl. 1, p. 217; Sleum. in Consp. Fl. Angol. 1 (1937) 79. — *S. chevalieri* auct., *non* Chipp: Evrard, Bull. Soc. R. Bot. Belg. 86 (1953) 9 p.p.

Tree, 5—20(—30) m, trunk up to 70 cm in diam., straight, slightly fluted; bark thin, smooth or pustular, greenish-grey to blackish. *Branchlets* glabrous, older parts early corticate and lenticellate. *Leaves* oblong to obovate-oblong, or elliptic, rarely subovate, rather variable in shape and size, apex for 0.5—1.2 cm obtusely and \pm abruptly acuminate,

rarely attenuate-obtuse or rounded, base generally \pm broadly cuneate, sometimes obtuse or rounded, rarely subcordate, subcoriaceous to coriaceous, glabrous, entire or shallowly subserrate-crenate, 5—10(—12) by 3—5(—6) cm, nerves 6—8 pairs, \pm obsolete above, slightly prominent beneath, reticulation rather coarse, slightly raised beneath; petiole 4—12(—20) by \pm 1 mm. *Racemes* one or few in a fascicle from the upper 1—3, sometimes partly defoliate axils, forming a subumbellate pseudopanicule or thyrsus; rachis slender, glabrous or generally puberulous, 4—10 cm; pedicels slender to subfiliform, glabrous or mostly puberulous, at anthesis 3—5(—8) mm, in fruit a little accrescent and more stoutish. *Sepals* suborbicular-elliptic, veins obscure, dorsally glabrous, ciliate, 3(—4) by 2 mm. *Petals* oblong-obovate, long-ciliate, otherwise glabrous, (4—)5 by 2 mm, the basal hairy appendage 1—1.5 mm. *Anthers* 1.5—2 mm. *Ovary* substipitate, smooth, glabrous; style 0.5 mm, the 3 stigmatic branches \pm reflexed (1 mm). *Capsule* subglobular, finely warty outside, \pm smooth inside if not crumpled in the dry state, (3—)4—8(—9) mm in diam. in the dry state; pericarp coriaceous, 0.5—1 mm. *Seeds* 1 or 2 (or 3), inequally subglobose-angular 5—6 mm across.

SIERRA LEONE. Taiama, *Deighton* 3155, 3374.

LIBERIA. Dukwia R., *Cooper* 292, 369. W. of Zwedru, *Voorhoeve* 291. Cape Palmas, *Cooper* 420.

CÔTE D'IVOIRE. *Sassandra*, *Bernardi* 8552; entre *Sassandra* et le *Moyen Cavalley*, *Chevalier* 19196, 19292; N. of *Sassandra*, E. of *Béyo*, 90 m, *Leeuwenberg* 2605. *Yapo*, *Chevalier* 22315, *Fleury* 19. *Attié*, *Alépé*, *Chevalier* 16231 (K, type of *S. coriacea*; L, P). *Guiglo*, *Aubrèville* 2046. Mt. *Momi*, *Aubrèville* 1181. *Mudjika*, *Serv. For.* 1691 (P).

GHANA. *Ashanti*, *Bobiri For. Res.*, *FH* 5540 *Andoh*. *Fure For. Res.*, *GC* 38339 *Enti & Hall*. *Esuboni For. Res.*, *Jumah* 5465. *Birim For. Res.*, *Vigne* 2883.

NIGERIA. *Ijebu, Omo & Shasha For. Res.*, *FHI* 13503 *Allison*, *FHI* 16949 *Latilo*, *FHI* 17364 *Jones & Onochie*, *Richards* 3452, *Ross* 15, 194. *Oni, Ondo, Lancaster a.* 1933, *Sankey* 16. *Benin, Ugonigbe For. Res.*, *FHI* 43358 *Oladoyinbo*; *Okomu For. Res.*, *FHI* 38546 *Onochie*, *Richards* 3277, *Ross* 125; *Sapoba*, *FHI* 4097 *Adekunle*, *Kennedy* 1273, 1667, 1674, 2021. *Calabar, Oban, Talbot* 1756. *Itu, Umon-Ndealichi For. Res.*, *FHI* 30191 *Ujor*. *Ikom*, *FHI* 5840 *Jones & Onochie*.

CAMEROON. *Yokadouma, Moloundou*, 'Bange Busch zwischen Lokomo, Bumba & Bange', c. 15°15' E 2°50' N, *Mildbraed* 4378 (B, type of *S. thyrsoflora*, †; HBG). *Kribi*, au SW. de *Zingui*, *Letouzey* 9115; *Bella*, 45 km NE. de *Kribi*, *Letouzey* 4144; *Kribi-Bipindi*, *Mildbraed* 7542 (B, †); *Bipindi*, *Zenker* 4753; *Lokundje*, *Zenker* 2646 (B, lectotype of *S. kamerunensis*, †; BR, HBG, L, M, P, W, WU, Z), 3018 (B, syntype of *S. kamerunensis*, †; BR, HBG, M, L, W, WU, Z), 3031 (B, syntype of *S. kamerunensis*, †; BR, HBG, L, M, P, W, WU, Z). *Batouri, Dengdeng*, *Mildbraed* 8894 (B, †); *Goyoum*, 670 m, *Breteler* 961; *Molobo*, *Letouzey* 5429. *Edea*, *S.R.F.K.* 2192, 4220 (P). *Yaoundé, Etun*, *Mildbraed* 7984 (B, †).

EQUATORIAL GUINEA. (Rio Muni). *Beba*, *Tessmann* 786 (B, type of *S. polyantha*, †).

CENTRAFRICAN REP. *Koundé, Kongola, Mildbraed* 9022 (B, †). *Boukoko-Mbaiki*, *Tisserant* 380, 599, 1024, 1156, 1235, 1298, 1509, 1589, 2007.

GABOON. *Libreville*, fl. & fr. 10-1895, *Klaine* 630 p.p. (P. syntype of *S. klaineana*); *ibid.*, fl. 12-1896, drawing & descr. attached, *Klaine* 630 p.p. (P, lectotype of *S. klaineana*); *ibid.*, *Klaine* 630 b (P, as *S. 'gabonensis'* ms.); *ibid.*, *Klaine* 1119 (P, syntype of *S. klaineana*); *ibid.*, *Klaine* 2812, 3154, 3215, 3289, 3438; *ibid.*, *Sibange, Klaine* 2715, 2721. Entre l'Ogooué et Cameroun, *Le Testu* 9473; *Ogooué, Nkogo, Fleury* (Herb. *Chevalier* 26647). *Bas-Ogooué, Diobomagola, Fleury* (Herb. *Chevalier* 26517). *Oguémomé, S.R.F.* 1186 *Guillery* (P). *Lac Alombic, R.T.C.C.* 8 (P). *La N'Koulounga, Touzet* 123 (P). *Haute Ngounyé, Le Testu* 5139. *Tchibanga, Le Testu* 1914. *Lastoursville, Le Testu* 7818, 8582, 8657.

CONGO-BRAZZAVILLE. *Liouesso à Pk 15 de Ouessou, Trochain* 10919 (P). *Makoua-Fort Rousset, Bouquet* 1528 (P).

ZAIRE. *M a y u m b e*. *Luki, Toussaint* 250, 288, 2234, 2290. — *B a s - Z a i r e*. *Thysville, Mvuazi, Davio* 35. — *K a s a i*. *Kutu, Nioki, Flamigni* 6291. *Popokabaka, Pauwels* 836. *Kikwit, Kiyaka, Devred* 2757. *Mweka, Kakenge, Dechamps* 53; *Bena Longo, Dechamps* 247. *Kahemba, Riv. Tshilualua, Devred* 3560. — *B a s - K a t a n g a*. *Mwene Ditu, Hardy* 41, 57. — *Centr. Forest Distr.* *Gemena, Boketa, Evrard* 1181. *Budjala, Likimi, Malchair* 500. *Coquilhatville, Eala, Corbisier* 1878. *Ingende, Bokuma, Bokatola, Lebrun* 1332. *Bikoro, Gombe, Toka* 56. *Inongo, Ebabaka, Flamigni* 6488. *Bumba, Dundusana, Mortehan* 531. *Isangi, N. de Ngazi, 500 m, Louis* 7630; *Yangambi, 470 m, Bolema* 1071, *Evrard* 2089, *Germain* 27, 400. *Kalehe, Kavumu-Walikale, 860 m, Troupin* 10577; *Bunyakiri, A. Léonard* 2865. — *U b a n g i - U e l e*. *Ango, Digba, Gérard* 5651; *Tukpwo, Gérard* 2169, 4109. — *L a k e K i v u*. *Kahuzi, 650 m, Michelson* 235, 236, 993.

ANGOLA. Cuanza Norte, Quitombe, Camabatela, *Gossweiler 7396* (BM, type of *S. gossweileri*; COI, LISJC & LISU, *n.v.*).

E c o l o g y. Understorey tree in rain forest, locally abundant or even dominant, rarely in swamp forest, occasionally in semideciduous forest with *Celtis* and *Sterculia*.

N o t e. Sterile or flowering specimens with fully mature, i.e. \pm coriaceous leaves are sometimes difficult to distinguish from those of *S. orientalis*.

var. **mimfiensis** (Gilg) Pellegrin, *Mém. Soc. Bot. Fr.* 1952 (1953) 108 *p.p.*, *typo incl.* — *S. mimfiensis* Gilg, *Bot. Jahrb.* 40 (1908) 448; Engl., *Pflanzenw. Afr.* 3, 2 (1921) 561; Gilg in E. & P., *Nat. Pflfam.* ed. 2, 21 (1925) 394; Keay in Hutch. & Dalz., *Fl. W. Tr. Afr.* ed. 2, 1 (1954) 186; Keay, Onochie & Stanfield, *Niger. Tr.* 1 (1964) 98. — *S. chevalieri* Chipp, *Kew Bull.* (1923) 265; Gilg in E. & P., *Nat. Pflfam.* ed. 2, 21 (1925) 394; Hutch. & Dalz., *Fl. W. Tr. Afr.* ed. 1, 1 (1927) 160; Kennedy, *For. Fl. S. Niger.* (1936) 30; Aubrév., *Fl. For. Côte d'Ivoire* 3 (1936) 6, t. 245 1—2; Keay in Hutch. & Dalz., *Fl. W. Tr. Afr.* ed. 2, 1 (1954) 186; Irvine, *Woody Pl. Ghana* (1961) 81. — *S. kamerunensis* auct., *non* Gilg: Cheval., *Vég. Ut. Afr. Trop. Fr.* 9 (1917) 60.

Leaves larger in general, (10—)12—16 by 6—9 cm. *Sepals* with more distinct (in dry specimens darker) longitudinal nerves. Connected by transitions with var. *klaineana*, and perhaps also with *S. orientalis* in Nigeria.

SIERRA LEONE. Kambui, *Wallace 98* (FHO, sterile).

CÔTE D'IVOIRE. Rasso, *Aubréville 143, 143 bis*. Aonabo, route d'Abengourou, *Aubréville 641*. La Mé R., near bridge on road to Alépé, 0—50 m, *Leeuwenberg 4157* (WAG). Sassandra Port, *Chevalier 17920*. Vallée d'Agniéby, Kapiécrou, fl., *Chevalier 16182* (K, type of *S. chevalieri*; L, P).

GHANA. Pamu, Berekum For. Res., 300 m, *Vigne 2502* (FHO, sterile). Tafo, *Darko 156*. Ntakem, *Vigne 183* (FHO). Jimira For. Res., *Vigne 3012* (FHO). Nsawam, *Dade 1001* (FHO).

NIGERIA. Ishan, Ebai R., *FHI 38076 Olorunfemi* (FHO, sterile). Oyo, Ife For. Res., *FHI 41522 Olorunfemi*. Ijebu, Omo & Shasha For. Res., *FHI 15394 & 15396 Jones & Onochie, 16962 Jones & Onochie, 17226 Jones, Richards 3431 & 3432*. Benin, Okomu For. Res., *Brenan & Jones 8909, Ross 161*; Sapoba, Jamieson R., *Brenan 8937, FHI 21506 Keay & Onochie, 24689 Keay, Meikle 526* (fl., \rightarrow *S. orientalis* ?), *Ross 235*.

CAMEROON. Kumba, *FHI 14020 Ejiófor*. Kribi, Bipindi, 'am Ostabhang des Mimfia gegen das Lokundjetal' *Zenker 3052* (B, lectotype of *S. mimfiensis*, \ddagger ; BR, GOET, HBG, M, P, W, WU, Z); Nkuambo, *Zenker 3064* (B, syntype of *S. mimfiensis*, \ddagger ; GOET, HBG, L, M, P, W, WU, Z). Au S. de Mboy, 45 km à l'E. de Yokadouma, *Letouzey 5057* (P, sterile). Entre Goyoum et Lindji, Dendeng, *Letouzey 3280*.

ZAIRE. Bas-Zaire. Seké Banza, park de la Fuka, *Wagemans 1911* (BR, sterile), *2184* (BR, fr.).

ANGOLA. Cabinda. Belize, *Gossweiler 6970* (BM). Malange. Qucla, *von Nolde 432* (BM).

E c o l o g y. Apparently not different from that of var. *klaineana*.

EXCLUDED

S. montana Gilg in Engl., *Pflanzenw. Afr.* 3, 2 (1921) 561, *descr. abbrev.*; in E. & P., *Nat. Pflfam.* ed. 2, 21 (1925) 394 = *Gymnosporia buchananii* Loesen. 'var. *longistyla* Loesen.' = *Maytenus buchananii* (Loesen.) R. Wilczek, *Fl. Congo Belg. & Ruanda-Urundi* 9 (1960) 125.