*Acta Bot. Neerl.* 21(6), December 1972, p. 671–678

# STUDIES IN THE NEW WORLD SAPINDACEAE I.

# NOTES ON THE GENUS TALISIA AUBLET

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## 1. CRITICAL NOTES

Since the completion of RADLKOFER'S monumental work on the Sapindaceae in ENGLER'S series "Das Pflanzenreich" 50 years have now elapsed, almost 40 since its publication. It is still the basis of virtually all taxonomic studies in the family. Some of the gerontogean genera have since been the subject of revisional work (LEENHOUTS 1969, 1971), but for the neogean representatives there are only some regional treatments (e.g. RAMBO 1952; BARKLEY 1957; REITZ 1962; SOUKUP 1969), apart from descriptions of new taxa scattered through the literature.

When studying the taxa native to Suriname in connection with the preparation of a supplement to the family treatment published previously in the "Flora of Suriname" (UITTIEN 1937) it soon became apparent to me that the genus *Talisia* was particularly incompletely known when Uittien published his account of the family, actually not much more than an extract from Radlkofer's work. The number of species known or to be expected from Suriname proved to have doubled; this is not due to inadequateness of Uittien's work but to much more extensive collecting. Two of the species met with since could not be identified with any species dealt with by Radlkofer or described after his time: these are described as new below. In order to establish that they were truly undescribed the descriptions and, where possible, types and/or other authentic specimens of all species described after Radlkofer were checked. A list of these follows; it may serve as a kind of bibliographic supplement to Radlkofer's monograph. The two species marked with an asterisk have been posthumously listed in the supplement to his work.

*T. cararensis* Cuatrecasas, Rev. Acad. Colomb. Cienc. 8 (1951) 307. Type: *Haught 1608*, Santander, Colombia (isotype NY!).

**T. diphylla* Standley, Field Mus. Publ. Bot. 8 (1930) 21. Type: *Gaumer 23573*, Yucatán, Mexico (isotypes MB, K, NY!).

*T. elephantipes* Sandwith in Tutin, J. Bot. 78 (1940) 21. Type: *Tutin 405*, (British) Guiana (K!; isotypes RB, U!).

**T. floresii* Standley, Trop. Woods 26 (1931) 14. Type: *R. S. Flores s.n.*, Yucatán, Mexico (cultivated) (F; only photogr. seen).

*T. furfuracea* Sandwith, Kew Bull. (1935) 121. Type: *Forest Dept. 2352*, (British) Guiana (K!).

*T. grandifolia* Cuatrecasas, Rev. Acad. Colomb. Cienc. 8 (1951) 306. Type: *Cuatrecasas 17010*, E. Valle, Colombia (not seen).

*T. microphylla* Uittien, Rec. Trav. Bot. Néerl. 34 (1937) 483. Type *B.W. 6445*, Suriname (U! isotype K!).

*T. obovata* A. C. Smith, Brittonia 2 (1936) 154. Type: *Krukoff 4981*, Amazonas, Brazil (NY, 2 sh!).

*T. peruviana* Standley, Field Mus. Publ. Bot. 11 (1936) 165. Type: *Ll. Williams 5745*, Peru (F; only photogr. seen).

*T. retusa* Cowan, Brittonia 7 (1952) 403. Type: *Wilson-Browne 508*, (British) Guiana (NY!; isotype K!).

*T. svensonii* Standley, Contr. Arn. Arb. 5 (1933) 98. Type: *Woodworth & Vestal 353*, Barro Colorado I., Canal Zone, Panama (F; only photogr. seen).

*T. tiricensis* Steyermark & Maguire, Mem. N. Y. Bot. G. 17 (1967) 448. Type: *Steyermark & Wurdack 116*, Bolivar, Venezuela (not seen).

After examining the descriptions and, where published, illustrations of these species, and after studying types or other authentic specimens of most of them I am convinced that they have been correctly placed in *Talisia*, with the exception of some of Standley's. Although *Talisia* is a natural and fairly homogeneous genus among the neogean Sapindaceae (also xylotomically; see MENNEGA 1972), Standley assigned two quite divergent species to it, and another is dubious. The following notes on his species may be given here.

*T. diphylla* was transferred to *Exothea* by Lundell [Phytologia 1 (1937) 242], apparently correctly so. *T. peruviana*, of which I saw a photograph of the type and a considerable series of paratypes, seems to be a Simaroubacea, perhaps a species of *Picramnia*[1]. The original description of *T. floresii* is grossly inadequate. Standley described it as having 10 stamens and made no mention of petal appendages or a disk. I doubted that it was even a Sapindacea, but a photograph of the type and re-examination of buds from it [2] showed that it is a true *Talisia*; there are 8, not 10, stamens, a single petal appendage almost equaling its petal plate, with very dense and extremely long, woolly indument on the side facing the floral axis, and a glabrous disk so deeply lobed as to be almost divided into obtuse, subtriangular lobes ½ mm in length. A second collection of what I regard as the same species, *Matuda 3193* from Tabasco, Mexico (NY), with expanding and therefore full-grown flowers, provided some additional measurements and other data: Flowers subsessile, solitary or in few-flowered cymes on peduncles up to 5 mm long; calyx 4–5 mm long, parted beyond the middle into triangular, acute lobes 2½–3 mm long; petals expanding with the sepals, 4 mm long (1 mm claw), the plate rhombic, acute; stamens glabrous; filaments 4 mm long; anthers 1 mm long, shortly oblong, obtuse. Pistillode densely villous, small. Leaflets 9 × 3½ – 11 × 6 cm, on petiolules up

[1] Standley described the leaves as trifoliolate, which is not found in *Talisia* except as an occasional anomaly; but in the series of specimens at hand, nearly all of them authentic, there are also bi- and quadrifoliolate ones.

[2] I am much indebted to Dr. J. L. Gentry, Jr., of the Field Museum, Chicago, for assistance in this problem.

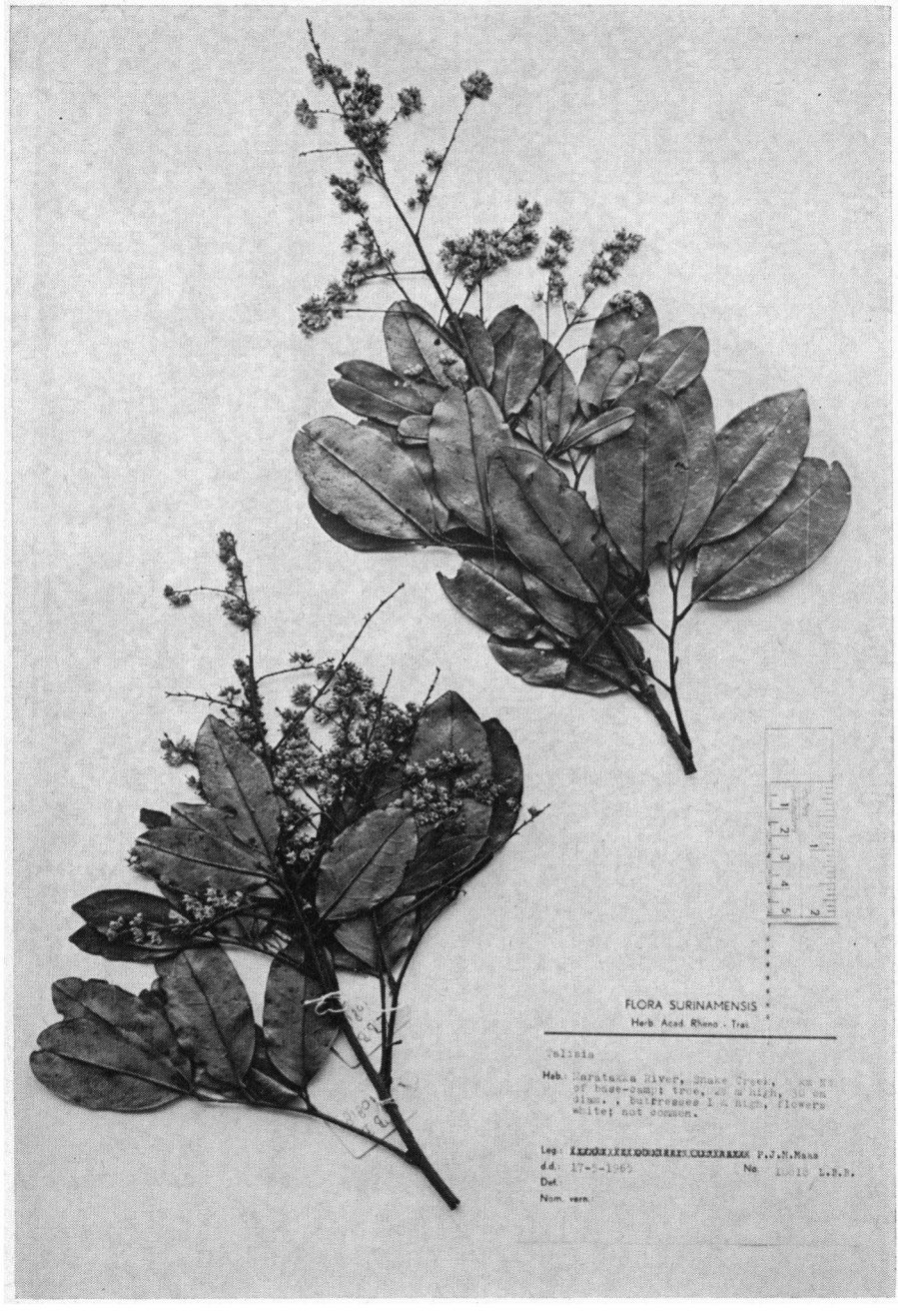


Plate 1. Type sheet of *Talisia simaboides* Kramer.

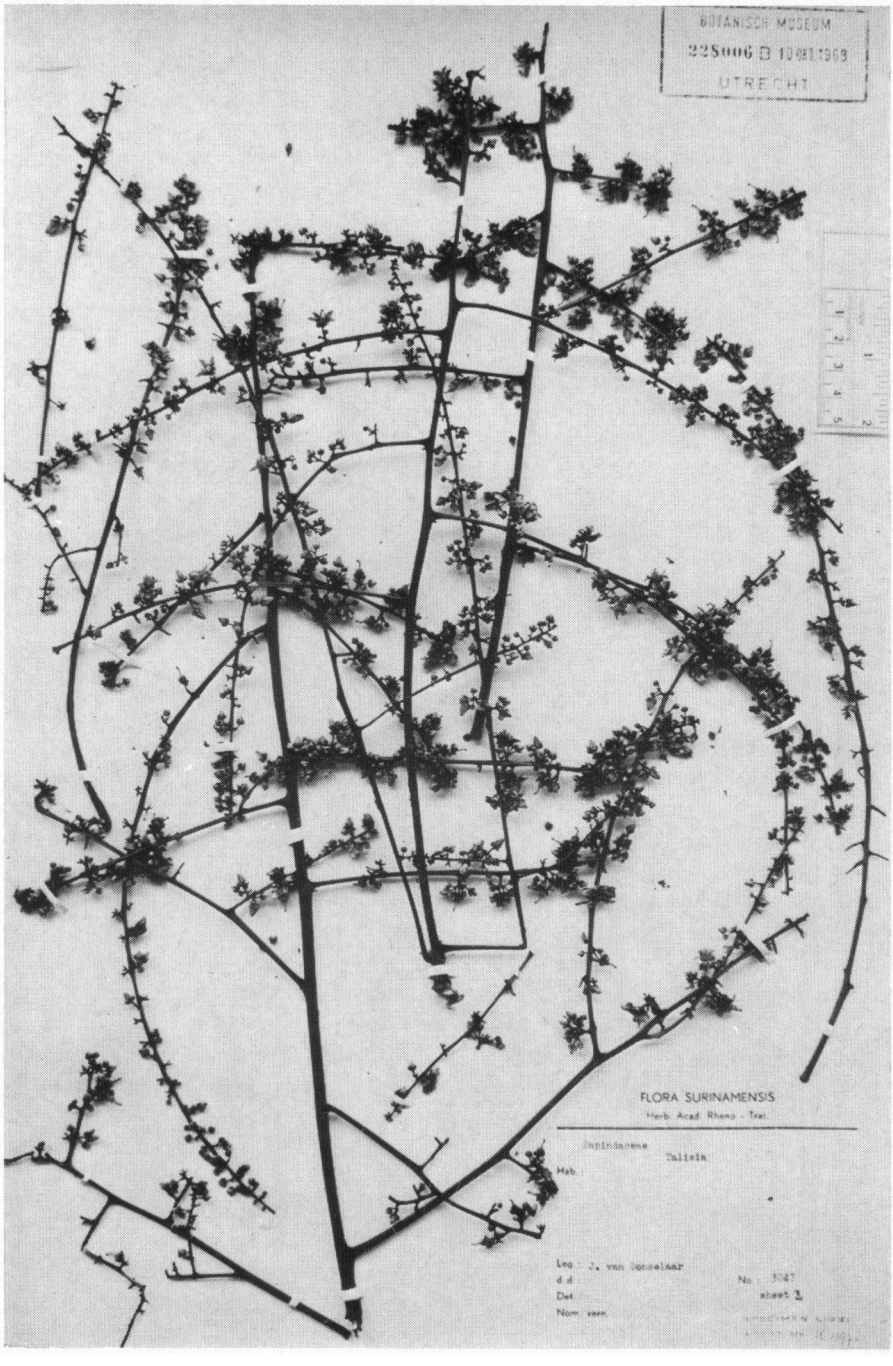


Plate 2a, b. Type sheets of *Talisia eximia* Kramer. a


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b

to 5 mm long (not "longe petiolata" as described by Standley). Judging from the type photograph *T. svensonii* may also be a *Talisia*. Standley again failed to report the presence of petal appendages, the number of stamens, and the presence and structure of a disk, but in view of what he did with *T. floresii* this does not justify the conclusion that these organs do not show the combination of characters typical of *Talisia*.

I hope to continue working on the genus; more species probably await description, whereas other, previously described ones are in my opinion untenable; see also KRAMER (in prep.).

## 2. DESCRIPTION OF TWO NEW SPECIES

**Talisia simaboides** Kramer spec. nova (*plate 1*)

Arbor 25 m alta, 30 cm diam., anterides 1 m altae (teste coll.). Ramuli fusci, glabri. Petiolus fuscus, glaber, abaxialiter teres, basi incrassatus, 2–4 cm longus. Lamina 3-jugata. Foliola subopposita, oblonga vel subobovata, 4–8 cm longa, 1½–4 cm lata, 2–2½ × longiora quam lata, latitudine maxima ad vel paulo super medium, basi acuta, apice obtusa vel subacuta, integra, coriacea, glabra, siccitate supra olivacea, leviter refulgentia, infra pallide brunnescentia, petiolulo fusco 3–6 mm longo. Costa infra prominula, fusca. Venae secundariae majores pro latere circ. 7–9, leviter ascendentes, infra subprominulae et lamina leviter obscuriores, arcuatim anastomosantes circ. 2 mm infra marginem; venulae minores haud manifeste reticulatae. Paniculae terminales, minute ferrugineo-tomentosae, pyramidales, bis racemiformi-ramosae, ad circ. 15 cm longae et latae; ramuli monochasia pauciflora vel flores solitarios gerentes. Pedicelli 1½–3 mm longi, griseo-fusco-tomentelli, propter medium articulati. Flores typi feminei. Calyx corollaque simultane expansae, pentamerae. Sepala ovata, acuta, 3–3½ mm longa, 1–1½ mm lata, basi circ. 1 mm connata, glabra sed dense et minute ciliata. Petala alba (teste coll.), 4 mm longa, 2 mm lata, ungue tomentello, lamina basi ciliolata, ceterum glabra, triangularia, acuta. Squama fere aequilonga, ad basim laminae inserta, triangularis, apice leviter emarginata, intra dense tomentosa, extra (ad petali laminam) glabra. Discus collum efformans, lobulatus, tomentellus. Staminodia 8; filamenta atque antherae circ. ½ mm longae, glabrae. Pistillum fusiforme, circ. 4–5 mm longum, 2 mm diam., glabrum; stigma circ. 1 mm longum, trilobum, stylo ½ mm longo insertum. Ovarium triloculare, loculis uniovulatis. Fructus adhuc ignotus.

Type: *P. J. M. Maas L.B.B. 10818*; Snake Creek, Marataka R. trib., Northwestern Suriname, 17–V 1965 (U; also spirit coll. of flowers). *Maas & Tawjoeran L.B.B. 10695* from Winana Creek, Corantyn R., not far from the type locality, is a sterile specimen rather like *T. simaboides* but with the leaflets up to 12 × 5 cm and up to 4-jugate leaves. – For a description of the wood see MENNEGA (1972).

This is evidently a member of section *Talisia* ("*Eutalisia* Radlk.") subsection *Pitombaria* Radlk., where it seems closest to *T. hexaphylla* Vahl which agrees in glabrous stamens and a hirsute disk but differs in little or not branched, lateral

inflorescences, up to 4-jugate leaves with larger, beneath reticulately veined leaflets, and brown-hairy ovary. There is some habitual resemblance to certain species of *Simaba* (Simaroubaceae), such as *S. cuspidata* and *S. multiflora*. *T. simaboides* was erroneously listed as "*Toulicia* sp.nov." by MAAS (1971).

**Talisia eximia** Kramer spec. nova (*plate 2*)

Arbor parva; ramos haud visos. Lamina, ut videtur, bijugata. Rhachis infra subcarinata, fusca, valida, circ. 4–5 mm diam. Foliola opposita (paria circ. 16 cm inter se remota), petiolulis valde incrassatis, circ. 1 cm longis et latis, chartacea, subbullata, supra leviter refulgentia, oblongo-ovata, circ. 55–60 × 15 cm, latitudine maxima prope apicem subacutum, basi longe et aequaliter cuneato-attenuata, glaberrima. Costa utraque facie prominens; venae secundariae circ. 11 pro latere, arcuato-ascendentes et circ. 5 mm intra marginem arcuato-anastomosantes, infra prominulae. Inflorescentia maxima, circ. ½ m longa, paniculata, ter ramosa, axibus glabris. Flores monochasia pauciflora efformantes vel solitarii; pedicelli minute flavo-hirtelli, ad 3 mm longi, articulati paulo supra medium. Sepala ciliata, praeterea glabra, ad partem tertiam vel quartem basalem connata, ovata, subacuta, extus carinata, 2¼ mm longa. Petala expansa post calycem, sordide alba (teste coll.), glabra praeter medium basalem ciliatum, 4 mm longa, ligulata; squama aequilonga, angustior, leviter bifida, intra longe sericea. Discus collum efformans, plicatus, villosus, aurantiacus (teste coll.). Stamina 8; filamenta 1.3 mm longa, pilis sat longis, sparsis; antherae elongatae, apiculatae. Ovarium bene effectum, tomentosum sicut stylus rosaceus; fructus valde juvenilis tomentosus.

Type and only known collection: high forest East of Brokopondo, Distr. of Brokopondo, Suriname, 24 I 1966, *J. van Donselaar 3047* (U, 2 sh.).

This species belongs to section *Talisia* subsection *Acladodea* and is closest to *T. pachycarpa* Radlk. from French Guiana. From this it differs, i.a., in its glabrous vegetative parts, subglabrous inflorescence, and much more strongly ascending secondary veins. – For a description of the wood see MENNEGA (1972).

ACKNOWLEDGEMENTS

I should like to express my gratitude to the Directors and Curators of the New York Botanical Garden for loan of material, of the Field Museum of Natural History, Chicago, for loan of type photographs, and of the Kew Herbarium and the British Museum (Natural History) for access to their collections and for permission to photograph type specimens.

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