

ADDITIONS TO PULLE'S FLORA OF SURINAM <sup>1)</sup>

I. PLANTS COLLECTED BY J. LANJOUW IN 1933.

edited by

J. LANJOUW.

(with tab. II).

From July-December 1933 I made a botanical collecting trip in Surinam (Dutch Guiana). It was intended especially to collect the herbs and lower shrubs as in the last 20 years, for evident reasons, the collections made by the Forestry Bureau were made for the greater part from the large forest trees. Therefore I have visited several savannahs and coastal swamps. Nevertheless a great part of the collection was made also in the forest, though I had not engaged sufficient Bush-Negroes to collect the trees as intensively as I did the herbs and shrubs. Moreover I made many photographs from plants and plantcommunities and notes on the vegetation of the savannahs and swamps, which I hope to be able to publish later-on in an account on the Surinamian vegetation.

I am much indebted to Prof. Dr. A. Pulle, director of the Botanical Museum and Herbarium at Utrecht who afforded the opportunity for this voyage and who gave me much useful advise and assisted me with the preparation. Grateful acknowledgement I wish to make to the managing-board of the „van Eedenfonds” at Amsterdam and the „Miquelfonds” from the University at Utrecht who gave financial support for my voyage. I wish to record my sincere thanks to Their Excellencies Dr. A. A. L. Rutgers and Prof. Mr. J. C. Kielstra, Governors of Surinam for the assistance I received from the Government, especially by their placing the means of conveyance at my disposal. To Prof. Dr. G. Stahel, director of the Agriculture Experiment Station at Paramaribo, I am much indebted for the help he gave me during my stay in Surinam, and for the practical advise for my journeys in the forest. It is impossible to

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mention separately all persons in Surinam who gave me practical assistance, so I use the opportunity to express here my sincere thanks to all of them. Finally I wish to record my best thanks to my friend Mr. J. P. J a n s s e n and his wife for their hospitality, which made my stay in Surinam unforgettable.

On the map of the Northern part of Surinam (Fig. 1) one may find the localities where my collections were made. Apart from the collecting trips in the neighbourhood of Paramaribo the following trips were made: 1. Several to Zanderij I and Sectie O; 2. Moengo (Cottica River), Albina and the Marowijne River; 3. Lower Saracca River; 4. Coppename River, Raleighfalls and Voltzberg; 5. Coronie and environs; 6. Nieuw Nickerie and environs; 7. Brownsberg and Suriname River near Kabelstation. The places where the collections are made are numbered on the map. The collecting numbers with the number of the locality and as far as possible the kind of vegetation from which the plant was collected are presented in a table. For the types of vegetation I have used the following numbers:

- |                         |                             |
|-------------------------|-----------------------------|
| 1. Savannah             | 7. Coastal swamp            |
| 2. Savannah-forest      | 8. Clay-polder vegetation   |
| 3. Riverbank-forest     | 9. Sandy-shore vegetation   |
| 4. Primitive rainforest | 10. Mud-shore vegetation    |
| 5. Secondary forest     | 11. Granite-rock vegetation |
| 6. Weedvegetation       |                             |

Collecting numbers	Collecting place	Vegetation	Collecting numbers	Collecting place	Vegetation
1—57	I	5 & 6	578—585	I	6
58—71	I	7	586—600	20	8
79—98	I	I	601—646	21	8 & 10
99—129	I	6	647—668	19	7
130—148	5	I	669—676	21	6
149—183	6	2	677—700	I	6
184—199	5	I	701—720	15	3
200—210	6	4	721—831	17	4
211—235	4	5	832—843	17	4
236—261	2	6	844—866	16	4
262—285	3	6	867—883	18	11
286—302	5	I	884—903	18	11
303—327	5	4	904—920	17	4
328—343	5	I	921—944	17	2
344—357	5	2	945—953	18	4

Collecting numbers	Collecting place	Vegetation	Collecting numbers	Collecting place	Vegetation
358—365	5	4	954—956	18	11
366—370	6	2	957—1004	16	3
371—375	6	1	1034—1058	23	6
376—383	6	4	1059—1073	23	7
385—403	8	3	1074—1108	23	6
404—412	7	4	1109—1133	22	7
413—423	9	3	1134—1145	23	6
424—447	10	2	1146—1172	25	3
448—500	7	4	1173—1208	25	1 & 2
501—505	10	2	1209—1234	25	3
506—518	11	6	1235—1271	24	1 & 2
519—536	12	3	1272—1312	25	4
537—552	14	9	1313—1355	4	5 & 6
553—577	13	9			

In this list some numbers are missing because they were collected in different places or represent cultivated plants.

In the enumeration with critical remarks following below only the families already published in the Flora of Surinam edited by Prof. Pulle are dealt with. The specimens belonging to the other families will be published with the families in the Flora as they will appear. Some of the specimens were new for Surinam and they are indicated with an asterisk. For these species only the literature will be mentioned, while for the others only the page of the Flora of Surinam will be given. Several species were collected for the second time in Surinam while for many others new localities have been found. Several persons who were engaged with the description of the families for the Flora of Surinam were willing to study my material too. I have to thank Dr. A. H. G. Alston (*Filicales*), Dr. C. E. B. Bremekamp (*Rubiaceae*), Dr. P. J. Eyma (*Polygonaceae*, *Guttiferae* and *Lecythidaceae*), Dr. B. H. Danser (*Oryctanthus*), Dr. Fr. Markgraf (*Mandevilla*, *Plumeria* and *Tabernaemontana*), Dr. S. J. van Oostroom (*Convolvulaceae*) and Dr. H. Uttien (*Cyperaceae*, *Malvaceae*, *Tiliaceae* and *Sterculiaceae*) for their kind assistance in the identification and for allowing me to publish their annotations in this list. As one will see it was necessary in some of the families to mention other collections as a revision proved to be necessary. This applies especially to the genus *Apeiba*. If no name is mentioned with the family the identifications have been done by myself.



FILICALES <sup>2)</sup>

by A. H. G. Alston (British Museum)

See Posthumus in Fl. of Surinam Suppl. (1928). p. 1—196.

## Hymenophyllaceae

*Trichomanes pinnatum* Hedw. var. *rhizophyllum* (Cav. pro spec.) Fl. p. 17.

1324. Suriname River near Kabelstation, November 16th.

## Polypodiaceae

*Asplenium serratum* L. Fl. p. 80.

769. Coppename River near Raleighfalls, on stone in the forest, September 11th.

*Asplenium salicifolium* L. emend. Maxon (*A. semicordatum* Maxon Fl. p. 82).

920. Foot of the Voltzberg, in the virgin forest epiphytically on tree. Leaves light green. September 20th.

The nomenclature of this species has been corrected by Maxon (Contr. U.S. Nat. Herb. X. pp. 475—481).

*Blechnum serrulatum* Richard Fl. p. 89.

189. Forest Reserve Sectie O, savannah-forest. Juli 22nd.

302. Forest Reserve Zanderij I, on moist places. July 29th.

439. Weyneweg, between Albina and Moengo tapoe, savannah-forest. August 14th.

652. Swamp behind Waterloo near Nieuw Nickerie. August 28th.

1117. Coronie, Panta swamp forest. October 23rd.

*Hemionitis palmata* L. Fl. p. 93.

776. Coppename River near Raleighfalls, in the forest on stone. September 11th.

This is the second record of this species for Surinam. The leaves are smaller and denser pubescent than is indicated in the description and than with the other Surinam specimen. Perhaps these differences are due to the rather young state of the plant.

*Gymnopteris rufa* (L.) Bernhardt Fl. p. 94.

869. Foot of the Voltzberg, on stone block. September 18th.

<sup>2)</sup> Part of the identification was done by myself. Dr. Alston saw nearly all the material and corrected the nomenclature and wrote the manuscript. L.

*Pityrogramma calomelanos* (L.) Maxon (*Ceropteris calomelanos* Underwood Fl. p. 95).

389. Cottica River near Moengo, along bank of the River.  
Leaves greyish beneath. August 9th.

Maxon (Contr. U.S. Nat. Herh. XVII. p. 173) points out that *Pityrogramma* is older than *Ceropteris*.

*Adiantum latifolium* Lam. Fl. p. 105.

211. Lower Suriname River, plant. La Liberté, July 24th.

766. Coppename River near Raleighfalls, forest, September 11th.

*Adiantum argutum* Splitg. Fl. p. 105.

772. Coppename River near Raleighfalls, forest, September 11th.

Perhaps only a form of *A. latifolium* Lam.

*Adiantum tetraphyllum* Willd. Fl. p. 109.

786. Coppename River near Raleighfalls, forest, September 11th.

Leaves not acuminate and not sharply serrate.

*Pteridium arachnoideum* (Klf.) Maxon (*P. aquilinum* Kuhn Fl. p. 113).

190. Forest Reserve Sectie O, savannah forest, July 22nd.

*Vittaria angustifolia* (Sw.) Baker Fl. p. 116.

857. Coppename River near Raleighfalls, in the forest epiphytically on tree, September 16th.

*Eschatogramme Desvauxii* (Kl.) C. Chr. Fl. p. 120.

784. Coppename River near Raleighfalls, forest. Epiphytically on tree, September 11th.

Included under *E. furcata* (L.) C. Chr. by Posthumus. Christensen separates this species in Dansk Bot. Ark. VI. p. 34.

*Polypodium percussum* Cavanilles Fl. p. 143.

977. Coppename River near Raleighfalls, on tree, September 25th.

760. Id. September 11th.

*Acrostichum daneaeifolium* Langsd. et Fisch. Fl. p. 154.

1130. Corone, frequent along border of swamp, October 24th.

This species is included under *A. aureum* L. by Posthumus, Small (Flora S.E.U.S. ed. 2, p. 7. 1913) and Jenman (Timehri IV, pp. 311—316).

The sterile pinnae are pubescent, smaller, less obtuse than in *A. aureum*, while the fertile pinnae are more numerous, the venation more marked and the stipe stouter. Maxon states that the

paraphyses are "minute, capitate-stellate" in *A. aureum* and "large, allantoid" in *A. daneaeifolium*. J e n m a n states that this gives the sori of *A. daneaeifolium* (his *Chrysodium lomarioides*) a pruinose appearance, while those of *A. aureum* are coffee-coloured, and that the fertile fronds of *A. daneaeifolium* stand rigidly erect in the centre of the plant with the shorter sterile ones spreading round them. In *A. aureum* all the fronds are similar.

*Acrostichum aureum* L. Fl. p. 154.

239. Lower Saramacca River near Groningen, side of a ditch, July 27th.

640. Corantijnpolder near Nieuw Nickerie, side-creek Corantijne River, August 27th.

### Parkeriaceae

*Ceratopteris pteridoides* (Hk) Hieron. (*C. thalictroides* Brongn. Fl. p. 155).

1122. Coronie in swamp canal, October 23rd.

B e n e d i c t (Bull. Torr. Club. XXXVI. pp. 463—476, 1909) restricts the name *C. thalictroides* (L.) Brongn. to the Asiatic plant with 1—2-pinnate sterile leaves, and segregates three American species: all of which are recorded from Guiana. The W. African plant, which the present writer has seen in cultivation at Munich is also quite distinct from the Asiatic. *C. pteridoides* has pentagonal leaves, lobed in young plants but becoming more divided as the plants get older, unlike the true *C. thalictroides* they frequently propagate vegetatively by young plants in the leaf margins as in *Bryophyllum*. The sterile fronds are prostrate according to J e n m a n (Timehri V. p. 156) and rest on the surface of the water and mud, while the fertile are erect and held clear of the water.

### Gleicheniaceae

\**Dicranopteris flexuosa* (Schrad.) Underw. in Bull. Torr. Bot. Club XXXIV. 1907. p. 254.

1326. Suriname River near Kabelstation, edge of forest. Leaves blue green beneath. Sori orange yellow. November 16th. First record for Surinam.

Distribution: Mexico to Brazil, Colombia.

### Schizaeaceae

*Lygodium volubile* Swartz Fl. p. 162.

473. Cottica River near Moengo, virgin forest. August 16th.

933. Lower Suriname River plant. La Liberté, edge of forest. July 24th.

- The Guiana plant is sometimes separated as *L. micans* Sturm.  
*Lygodium polymorphum* (Cav.) H.B.K. Fl. p. 163.  
 1332. Along railway south of Kabelstation, edge of forest. November 16th.

#### Salviniaceae

- Salvinia auriculata* Aubl. Fl. p. 166.  
 647. Swamp behind Waterloo near Nieuw Nickerie, in ditch. August 28th.  
*Azolla caroliniana* Willd. Fl. p. 166.  
 1121. Coronie, in swamp-canal. Red brown. October 23rd.

#### LORANTHACEAE

- See Krause in Fl. of Surinam vol. I. 1. (1932) pp. 4—24.  
*Oryctanthus florulentus* (Rich.) Urb. in Engl. Bot. Jahrb. XXIV (1898); — *O. ruficaulis* Eichl. Fl. p. 8.  
 967. Coppename River near Raleighfalls, on island. Flowers green. Parasitic. Sept. 25th.  
*Phthirusa Theobromae* (Willd.) Eichl. Fl. p. 14.  
 575. Marowijne River near Langamankondre, sandy-shore forest. Flowers white, fruit red. Parasitic. August 13th.  
 1055. Coronie, roadside. Flowers white. Parasitic. October 20th.  
*Phthirusa squamulosa* Eichl. Fl. p. 16.  
 155. Forest Reserve Sectie O, Savannah forest, Stems rust-coloured, fiery-red, July 22nd.  
 349. Forest Reserve Zanderij I. Flowers red. Parasitic. July 31st.  
 Vernacular name: Voroedotti.  
*Phoradendron piperoides* (H.B.K.) Trelease Fl. p. 23.  
 580. Lower Suriname River plant. Peperpot. Fruit orange-yellow. Parasitic on *Erythrina*. August 20th.

#### AMARANTACEAE

- See Scheygrond in Fl. of Surinam vol. I. 1. (1932) p. 25—44.  
*Amarantus caudatus* L. Fl. p. 29.  
 280. Lower Saramacca River near plant. Catharina Sophia. In a cassava field. High 1.60 m. July 27th.  
*Amarantus spinosus* L. Fl. p. 30.  
 1051. Coronie, Staalweide. Close together. October 20th. Vernacular name: Kraroen.  
*Amarantus lividus* L. Fl. p. 32.  
 278. Lower Saramacca River near Plant. Catharina Sophia. Weedvegetation. Flowers reddish white. July 27th.

*Acnida cuspidata* Bert. ex Spreng. Fl. p. 34.

642. Corantijne River near Nieuw Nickerie. Border of shell-bank. Female plant with a thick stem. August 27th.

Vernacular name: Dia Krakroe.

1101. Coronie, rice-polder. Flowers green. Female plant. October 22nd.

Vernacular name: Klaroen.

*Pfaffia stenophylla* (Spreng.) Stuehl. in Fedde Repert. XII.

(1913). p. 357. (as *D. glauca* Spreng. in Fl. p. 37).

530. Marowijne River near Arminafalls. Flowers white. August 12th.

*Alternanthera ficoidea* (L.) Roem. et Schult.

20. Paramaribo, roadside. Flowers yellow, bracts white. July 18th.

Vernacular name: Akwemma.

1046. Coronie, roadside. Flowers white. October 20th.

*Gomphrena globosa* L. Fl. p. 42.

633. Corantijnpolder near Nieuw Nickerie. Cult. by native. Flowers purplish red. August 27th.

*Alternanthera sessilis* (L.) R. Br. Fl. p. 41.

612. Lower Corantijne River, near Nieuw Nickerie. Flowers pinkish white. Plant with prostrate stems. August 27th.

*Iresine vermicularis* (L.) Moq. Fl. p. 43.

1092. Coronie. Border of canal on muddy saltish soil. Flowers white. October 2nd.

#### BALANOPHORACEAE

See Lanjouw in Fl. of Surinam vol. I. 1. (1932) p. 45—46.

*Helosis cayennensis* (Sw.) Spreng. Fl. p. 46.

986. Voltzberg in the virgin forest. Root-parasite with red flowers. September 23rd.

#### ULMACEAE

See van Ooststroom in Fl. of Surinam vol. I. 1. (1932) p. 47—48.

*Trema micrantha* Blume Fl. p. 47.

419. Cottica River, mouth of the Patamacca River, in the forest. Flowers green. Shrublike tree 2 m. high. August 10th.

1285. Suriname River near Gansee, in the virgin forest. Fruit green. November 15th.

## POLYGONACEAE

by P. J. Eyma (Utrecht).

See E y m a in Fl. of Surinam vol. I. 2. (1934) p. 49—71.

*Polygonum acuminatum* H.B.K. Fl. p. 55.

269. Lower Saramacca River near plant. Catharina Sophia; ditch. 1 m. high. July 27th.

654. Nickerie behind Waterloo; border of swamp. Flowers white. August 28th.

1049. Coronie, along ditch. Flowers white. October 20th.

1061. Coronie, near Iengie Kondre. October 21st.

*Coccoloba mollis* Casar. Fl. p. 60.

359. Forest Reserve Zanderij I, forest. Flowers yellowish white, bracts rust-coloured, small tree inhabited by ants. July 31st.

V e r n a c u l a r n a m e : Mierenhoedoe.

*Coccoloba excelsa* Benth. Fl. p. 62.

422. Cottica River, mouth of the Patamacca River, forest. Liana. August 10th.

*Triplaris surinamensis* Cham. Fl. p. 68.845. Coppename River near Raleighfalls; on rocks in the River. Flowers greenish white (male), small tree  $\pm$  5 m high. September 16th.

V e r n a c u l a r n a m e : Miera hoedoe.

\**Ruprechtia marowynensis* Eyma nov. spec. Fig. 2.

Frutex magnus, ramulis teretibus subsulcatis, glabris, atris vel subcinereis, lenticellis brunneis adspersis, ochreis deciduis. Foliorum petioli circ. 6 mm longi, nigri, laminae elliptico-lanceolatae vel elliptico-oblanceolatae, longitudine latitudinem duplo vel nonnihil magis superante, apice subacuminato obtuso, basi acuto, 4—9 cm longae, coriaceae, glabrae, margine integro, statu sicco supra atro-violaceae, nitidae, subtus brunneae, nervis atro-violaceis, nervo mediano utrinque subaequaliter vel subtus nonnihil magis quam supra prominente, nervis primariis majores circ. 8—10, circ. 6 mm distantibus, supra prominulis, subtus prominentibus, parte superiore nervis secundariis subparallelis connectis, reticulatione ultima supra inconspicua, subtus densissima. Inflorescentiae femineae laterales et terminales solitarii vel bini,  $\frac{1}{2}$ —6 cm longae; rhachis tenuis cinereo-vel fulvo-tomentella; bractae parvae triangulares,  $\frac{3}{4}$  mm longae, fulvo-tomentosae; ochreolae 1— $1\frac{1}{4}$  mm longae, scariosae, bifidae, lobis obtusiusculis, subtomentosae; pedicelli 1— $1\frac{1}{2}$  mm longi, ad medium articulati; perianthii tubus obconicus,  $1\frac{1}{2}$ —2 mm longus,

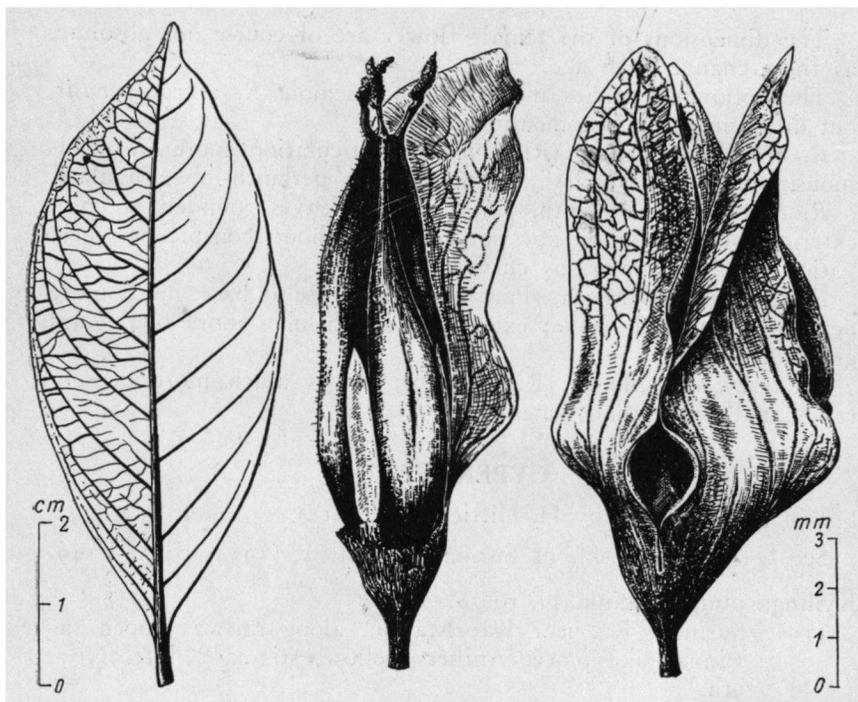


Fig. 2. *Ruprechtia marowynensis* Eyma.

lobi exteriores lanceolati 8—10 mm longi, longitudine latitudinem 2(-3) plo superante, parte apicali expansi marginibus dorso recurvis, papyracei, nervis 3 et reticulatione plus minusve conspicuis, in statu vivo viridi, utrinque ut tubus sparse adpresseque pilosi, lobi interiores late lineares vel lineari-oblongi, acuti, plani, minute adpresse pilosi, 4—5 mm longi; achaenium oblongum, profunde 3-sulcatum, angulis inferne valde incrassatis rotundisque superne acutis, apicem versus attenuatum, pilosiusculum, nitidum, brunneum, 7 mm longum; styli 3,  $\frac{3}{4}$  mm longi; stigmata acuta, verrucosa, stylos aequantia.

Flores masculi fructusque maturi ignoti.

Hab. Surinamo, ad fl. Marowyné inf. prope cataractis Armina (Lanjouw n. 525, typus, lectus mense Augusto anni 1933, in Herb. Rheno-trajectino).

This is the first specimen of the genus *Ruprechtia* reported from Surinam.

The dimensions of the female flower are of course not absolute, as these change with age.

The following species more or less resemble *R. marowynensis*, but differ in the points mentioned.

*R. tenuiflora* Benth. (Rio Negro): reticulation more inconspicuous, primary nerves less distant, exterior perianth-lobes subulate.

*R. brachystachya* Benth. (Br. Guiana): leaves rounded at base, exterior perianth-lobes not spreading, without conspicuous nervation, and with margins curved inwards.

*R. brachysepala* Meisn. (Pará): leaves obtuse at base, much more densely reticulated above; exterior perianth-lobes more ovate and glabrous.

*R. amentacea* Meisn. (Rio Negro): leaves much more densely reticulated above than beneath.

## CYPERACEAE

by H. Uittien (Utrecht).

See Uittien in Fl. of Surinam vol. I. 2. (1934) p. 72—149.

*Kyllinga pungens* Link. Fl. p. 76.

1196. Surinam R., near Kabelstation, along railway, open savannah-like place. Anthers yellow, stigmas white. Nov. 9th.

*Kyllinga monocephala* Rottb. Fl. p. 76.

24. Paramaribo, near Agric. Experim. Station, grass-field. Vern. name: Man grasie. Flowers white. July 18th.

63bis. Paramaribo, near Agric. Experim. Station, marshy land. July 20th.

*Pycnus polystachyus* Beauv. Fl. p. 78.

611. Lower Corantyne R., Corantynpolder, near Nieuw Nickerie. Aug. 27th.

*Cyperus Traillii* C. B. Clarke in Kew Bull., Add. Ser. VIII. (1908) p. 5; — *C. ruderalis* Uitt. Fl. p. 81.

Mr. K ü k e n t h a l kindly drew my attention to this synonymy, and I agree with him, now I have seen the type-specimen at Kew.

Distribution: Brazil, Upper Amazone R. (Traill 1179), Bahia (Spruce 1117).

*Cyperus Haspan* L. Fl. p. 82.

390. Cottica R., near Moengo, riverside. Aug. 9th.

1113. Coronie, border of swamp. Oct. 23th.

*Cyperus miliifolius* Kunth. Fl. p. 83.

761. Coppename R., near Raleighfalls, forest. Sept. 11th.

- Cyperus chalaranthus* Presl. Fl. p. 84.  
 10. Paramaribo, near Agric. Experim. Station, forest. July 18th.  
 43. Paramaribo, near Agric. Experim. Station, open roadside, July 19th.  
 1136. Coronie, rice-polder, Oct. 24th.  
 1299. Surinam R., near Gansee, virgin forest. Nov. 15th.
- Cyperus surinamensis* Rottb. Fl. p. 84.  
 1063. Coronie, Iengie Kondre. Oct. 21th.
- Cyperus luzulae* (L.) Retz. Fl. p. 85.  
 63. Paramaribo, near Agric. Experim. Station, marshy land. Flowers dirty white. July 20th. See plate I.
- The history of the name *C. luzulae* is rather queer. Retzius ascribes the new combination to Rottböll, who identified his *Cyperus* nr. 27 with some doubt with Linné's *Scirpus Luzulae*, but did not actually publish the new combination. The Linnaean name *Scirpus Luzulae* was possibly based upon a specimen of *Scirpus cubensis* Poepp. et Kth, but to this sheet (marked with pencil. "nr. 46" by Daydon Jackson) a second one (marked: nr. 45) is fixed with a Linnaean pin, bearing a specimen of *Cyperus*, inscribed *Scirpus Luzulae*, with the word *Scirpus* crossed out and replaced by *Cyperus*. The N. 45 has to be treated as the type-specimen. See the discussion on *Scirpus cubensis* Poepp. et Kth.
- Cyperus sphacelatus* Rottb. Fl. p. 86.  
 43bis. Paramaribo, near Agric. Experim. Station, open roadside. July 19th.  
 84. Charlesburg, near Paramaribo, shell-bank, sand. July 21th.
- Cyperus articulatus* L. Fl. p. 88.  
 58. Paramaribo, near Agric. Experim. Station, along ditches. July 20th.  
 604. Lower Corantyne R., Corantynpolder, near Nieuw Nickerie, in low water. 1.25 m high. Aug. 27th.  
 664. Swamp behind Waterloo near Nieuw Nickerie, canal, in the water. Aug. 28th.  
 1039. Coronie, Meereszorg, half dried-up swamp. Oct. 20th.  
 1072. Coronie. Swamp. Vern. name: Hadroe. Oct. 21th.  
 1111. Coronie. Swamp. Oct. 23rd.
- The first specimen of this species collected in Surinam by Rolander has been described by Rottböll in his *Descr. et Icon.* (1773), p. 26.
- Cyperus giganteus* Vahl. Fl. p. 90.  
 649. Swamp behind Waterloo near Nieuw Nickerie, swamp vegetation. Aug. 28th.

1129. Nickerie, swamp, very common, in the Typha-association. Oct. 24th.
263. Lower Saramacca R., near plant. Catharina Sophia, side of a ditch. 3 m high. July 27th.

The *Cyperus spec.* (nr. 49), described by Rottb., 1. c., p. 38, from a specimen, collected by Rolander in Surinam and identified by Rottb. as *C. odoratus* L. might be this species ("Gramen giganteum.... umbella supra-decomposita, 3 divisa, ramis ditissima" Rottb.) and not *Torulinium ferox* Urb (*Cyperus odoratus* auct.)

\**Cyperus digitatus* Roxb., Hort. Beng. (1813), p. 81; id., Fl. Ind. (ed. Wall. et Carey) I (1820), p. 209; id., Fl. Ind. ed. Carey, I (1831), p. 205; Clarke in Hook. f., Fl. Brit Ind. VI (1893), p. 618; id. in Urb., Symb. Ant. II (1900), p. 36; id. in Thiselton-Dyer, Fl. Trop. Afr. VIII (1902), p. 372; Valckenier Suringar, Het gesl. Cyp. in den Mal. Arch. (1898), p. 133, Tab. IV, fig. 35; — *C. auricomus* (Sieber, as described by) Clarke in Journ. Linn. Soc. Bot. XXI (1884), p. 188 and Benth. F. Austr. VII (1878), p. 286; — *C. giganteus* (not L. nor Vahl, but according to) Griseb. in Mem. Acad. Amer. N. Ser. VIII (1862), p. 535 et Pl. Cub. (1866), p. 238; — *C. trinidadensis* Boeck., Cyp. Novae, Heft 2 (1890), p. 7; — *C. venustus* (R. Br., as described by) Boeck. in Linnaea XXXVI (1869—70), p. 316, partly; Nees in Flora 1828, p. 333; — *C. Neesii* Kunth, Enum. II (1837), p. 101; Boeck., l.c., p. 315. — *C. brachystachys* Nees msc. ex Boeck., l.c., p. 309.

590. Lower Nickerie R., near Paradise. Aug. 26th.

656. Swamp behind Waterloo near Nieuw Nickerie. Aug. 28th.

Distribution: South-eastern Asia, Australia, Africa (rare), W-Indian Islands, Central and tropical South-America. (Argentina, Bolivia, Brazil, Brit. Guiana). Found in Surinam by Hostmann, nr. 898 (Kew). Should have been inserted in the Flora of Surinam between nr. 19 *C. giganteus* Vahl and nr. 20 *C. comosus* Poir, but differs from these two species of the section Papyri by the leafy stems. In the somewhat artificial key of the genus it might have been placed after 14 b and distinguished from 18 *C. rotundus* L. by the dimensions of the leaves and the umbel.

\**Mariscus umbellatus* (Rottb.) Vahl. Fl. p. 92.

98. Charlesburg, near Paramaribo, open ground. July 21th.

*Mariscus ligularis* (L.) Urb. Fl. p. 92.

38. Paramaribo, near Agric. Experim. Station, open roadside. Flowers brown. July 19th.

543. Marowyne R., near Galibi, shore. Aug. 13th.

1103. Coronie, along dike, rice-polder. Stems and leaves blue-green. Oct. 22nd.
- Torulium ferax* (L. C. Rich.) Urb. Fl. p. 94.
62. Paramaribo, near Agric. Experim. Station, marshy land. Light green. July 20th.
386. Cottica R., near Moengo, riverside. Aug. 9th.
1102. Coronie, along dike, rice-polder. Oct. 22nd.
- Dichromena repens* Vahl. Fl. p. 96.
982. Coppename R., near Raleighfalls, dry bed. Flowers white, frequent. Sept. 25th.
- Dichromena pubera* Vahl. Fl. p. 96.
1201. Suriname R., near Kabelstation, along railway, open savannah-like place. Nov. 9th.
- Rhynchospora barbata* (Vahl) Kunth. Fl. p. 100.
333. Zandery I, savannah. July 30th.
1249. Savannah near Brownsweg. Nov. 11th.
1265. Savannah near Brownsweg. Nov. 13th.
- Rhynchospora globosa* (H.B.K.) Roem. et Sch.
1236. & 1259. Savannah near Brownsweg. Nov. 11th & 13th.
- Rhynchospora cyperoides* (Swartz) Mart. Fl. p. 102.
138. Zandery I, savannah. July 22nd.
297. Zandery I, savannah, moist. July 29th.
- 1263 & 1266. Savannah near Brownsweg. Nov. 13th.
- Rhynchospora corymbosa* (L.) Hitch. Fl. p. 103.
387. Cottica R., near Moengo, riverside. Aug. 9th.
1112. Coronie, border of swamp. Flowers brown. Oct. 23rd.
- \**Rhynchospora graminea* Utt. n. sp. Fl. p. 105.
- Rhynchospora* e serie *Diplostylearum*, divisione *Psilocaryae* C. B. Clarke, sectione *Paucinucigerarum* C. B. Clarke, ex affinitate *R. gracillimae* Thwaites et *R. junciformis* Boeck.
- Planta perennis, 15—40 cm alta, stolonibus brevissimis subrepens, culmis gracillimis, foliatis. Folia plerumque multo breviora, 5—10, rarius usque ad 20 cm longa, rigida, supra canaliculata, subtus carinata, saepe conduplicata, 1.5—2 mm lata. Corymbi 1—3, usque ad 10 cm diametro, ramis filiformibus, 0—5 cm longis, bracteis omnibus inflorescentia multo brevioribus, plerisque 4—10 mm longis, setiformibus. Spiculae 7—9 mm longae, brunneae, 2-nucigerae, glumis inferioribus ovatis vel oblongis, mucronatis, superioribus nucigeris, angustioribus, cum spicula fere aequilongis.
- Nux obovato-conica, breviter stipitata, irregulariter transversim

undulata, nigrescens, rostro late triangulare, brevissimo, nuce angustiore, nigro.

Habitu, inflorescentia spiculisque *R. filiformis* Vahl (*R. podospermae* C. Wright), nuce autem transversim undulata satis diversa.

*Rhynchospora filiformis* Kth. var. *latifolia* Utt. in Rec. Trav. Bot. Néerl. XXII (1925), p. 336, figura 1d, ad specimen brasiliense Uleanum delineata, excepta.

Surinam. Savannah Zandery I. Leg. J. Lanjouw nr. 339,

July 30th 1934. (Type); Same locality: Pulle, iter secundum surinamense nr. 47, July 28th 1922 & nr. 26, July 27th 1922.

Same locality: Essed nr. 94, Aug. 1914.

For the first time specimens with ripe fruits have been collected now of a species which I formerly took for a variety of *R. filiformis* Kth. It occurs abundantly in the savannah of Zandery I, where Pulle and Essed collected it before.

It would not surprise me, if this species should turn out to be common elsewhere too. As a rule the Cyperaceae were neglected in the last half century by the botanists collecting in Surinam. In this way only it may be explained, that a relatively small collection as the present one contains so many species, new for the flora or recorded only once before. (*Mariscus umbellatus* Vahl, *Cyperus digitatus* Roxb., *Rhynchospora curvula* Griseb., *Bulbostylis lanata* Clarke, *Becquerelia tuberculata* Pfeiff., *B. cymosa* Brongn., *Scirpus cubensis* Poepp. et Kth., *Fimbristylis spathacea* Roth, *F. autumnalis* R. et Sch.) *Rhynchospora setacea* Boeck. (Fl. p. 105) has not been collected since 1845, while it should be "very common in the moist savannahs of Surinam; in the morning and in the evening its flowers smell like quinces" according to Rolander (Rottb. l. c., p. 62).

*Rhynchospora glauca* Vahl. Fl. p. 106.

1264. Savannah near Brownsweg. Nov. 13th.

*Rhynchospora cephalotes* (L.) Vahl. Fl. p. 106.

443. Weyneweg, between Albina and Moengo tapoe, savannah-forest. Aug. 14th.

762. Coppename R., near Raleigh-falls, forest. Sept. 11th.

1293. Suriname R., near Gansee, virgin forest. Nov. 15th.

\**Rhynchospora curvula* Griseb., Fl. Br. W.-Ind. Isl. (1864), p. 574; Clarke in Urb., Symb. Ant. II (1900), p. 107; not of Boeck. in Linnaea XXXVII (1873), p. 596 (*Spermodon curvulus* Nees in Mart. Fl. Bras. II, 1 (1842), p. 119);

1268. Savannah near Brownsweg. Nov. 13th.

New for Surinam.

Distribution: Trinidad (Lockhart 299, Britton, Hazen & Treeman 282 & 2003, Patter 25, all in herb. Kew.), French Guiana (according to Clarke, l. c.) The species has been inserted in the key of the genus, Fl. p. 98 and should be placed between 3. *R. arenicola* Uitt. & 4. *R. globosa* Roem et Sch.

*Eleocharis interstincta* (Vahl) Roem. et Sch. Fl. p. 110.

391. Cottica R., near Moengo, riverside. Aug. 9th.

*Eleocharis mutata* (L.) Roem. et Sch. Fl. p. 110.

1107a. Coronie, dike. Oct. 22nd.

*Bulbostylis lanata* (H.B.K.) Clarke. Fl. p. 115.

1235 & 1260. Savannah near Brownsweeg. Stigmas white, thick root-stock. Nov. 13th.

Recorded once only from Surinam by Boeckeler in *Linnaea* XXXVI, p. 738.

*Bulbostylis conifera* Kunth. Fl. p. 116.

191 & 342. Zandery I, savannah. July 22nd. & July 30th.

Collected before on the same locality by Essed (nr. 113, Aug. 1914, put away amongst *Xyris*).

*Fimbristylis spathacea* Roth. Fl. p. 120.

570. Marowyne R., near Langamankondre, strandvegetation. Aug. 13th.

1095. Coronie, border of canal, on muddy saltish ground. Oct. 22nd.

Collected once only before.

*Fimbristylis spadicea* (L.) Vahl. Fl. p. 121.

1093. Coronie, border of canal, on muddy saltish ground. Oct. 22nd.

*Fimbristylis annua* (All.) Roem. et Sch. Fl. p. 122.

1199. Suriname R., near Kabelstation, along railway, open savannah-like place. Nov. 9th.

*Fimbristylis miliacea* (Thunb.) Vahl. Fl. p. 123.

670. Margarethenburg near Nickerie. Aug. 29th.

*Fimbristylis complanata* (Retz.) Link. Fl. p. 123.

60. Paramaribo, near Agric. Experim. Station, marshy land. July 20th.

Leaves broader and longer than in the other Surinam specimens and fruits not so densely tuberculate. Leaves 5—6 mm broad, about 3/4—4/5 the length of the stem.

*Fimbristylis autumnalis* (L.) Roem. et Sch.

757. Coppename R., near Raleigh-falls, on rocks, Sept. 11th.

Collected only once before.

*Fuirena umbellata* Rottb. Fl. p. 124.

1190. Suriname R., near Kabelstation, along railway, open savannah-like place. Nov. 9th.

\**Scirpus cubensis* Poepp. et Kunth ex Kunth, Enum. II (1837), p. 172; Clarke in Urb., Symb. Ant. II (1900), p. 92; id. in Thiselton-Dyer, Fl. Trop. Afr. VIII (1902), p. 451; — *S. ablepharus* Griseb., Pl. Cub. (1866), p. 240; — *Oxycaryum Schomburgkianum* Nees in Mart., Fl. Bras. II, 1 (1843), p. 90; — *Cyperus blepharoleptos* Steud., Syn. Pl. Glum. II (1855), p. 28; — *Anosporum cubense* Boeck. in Linnaea XXXVI (1869—70), p. 413; — *A. Schinzii* Boeck. in Verh. Bot. Ver. Brandenb. XXIX (1888), p. 46. — *Isolepis echinocephala* Oliver in Trans. Linn. Soc. XXIX (1875), p. 167, t. 107.

1096. Coronie, side of ditch. Oct. 22nd.

Probably not new for Surinam. If the specimen collected in Surinam by Weigelt and named *Kyllingia scirpina* by Reichenbach proves to be the same species, the name *Courtoisia olivacea* Boeck. (Flora 44, 1861, p. 331) has to be added to the list of synonyms, as Clarke in Urb., Symb. Ant. II (1900), p. 92 asserts. Kunth, Enum. II (1837), p. 43 says it is an incomplete and very young specimen and perhaps *Cyperus luzulae* Retz. or *C. virens* Mich. (p. 40). I have not seen this specimen, but I think a confusion between *C. luzulae* and *Scirpus cubensis* is obvious. The species are often nearly identical in facies, but for the long thin stolons of the latter one. In the case of Lanjouw's nrs 63 & 1096 (see Tab. II) the difference is evident, due to the glaucousness of *Cyperus luzulae*, but there are many much more difficult cases, f.i. Leprieur 69 (French Guiana: *Cyperus*) and Schomburgk 371 (British Guiana: *Scirpus*). As a matter of fact Linné confused the two species in his herbarium. It is possible that his description of *Scirpus Luzulae* in the second edition of Species Plantarum, p. 75 was based partially upon *Scirpus cubensis*, which he might have got from Rolander. But the fact, that he put the name *Scirpus Luzulae* (afterwards corrected into *Cyperus*) upon the other sheet, bearing a genuine *Cyperus luzulae*, settles the question of nomenclature. Burman, Flora Indica (1768), p. 22, identified Linné species with various species of East- and West-Indian *Cyperus*-species and Rottböll, Desc. et Icon. (1773), p. 23, described and figured (Tab. XIII, fig. 2) *Cyperus luzulae*, as *Cyperus spec.* based upon a dried specimen from the Amsterdam Bot. Gard. and a variety, collected in Surinam by Rolander. The last-mentioned plant and also the authority of Burman induced him to cite *Scirpus Luzulae* L.

as a synonym with a note of interrogation. Retzius (Observ. Bot. IV (1786), p. 11, doubted the identity of this *Cyperus Luzulae* Rottb. with the *Scirpus* of Linné and thus, because he published the new combination for the first time, Retzius has to be taken as the author of the very name of which he denied the correctness.

Distribution: Tropical Africa; Central and tropical South-America.

*Diplasia karataefolia* L. C. Rich. Fl. p. 127.

202. Forst Reserve Sectie O. July 22nd.

1282. Suriname R., near Gansee, virgin forest. Nov. 15th.

*Mapania sylvatica* Aubl. Fl. p. 128.

Since the publication of the flora, the following specimens have been found strayed amongst the Rapateaceae: Brownsberg, B.W. 3190, flow. Sept. 5th 1917; Emmaketen-Mountains, forest, 600 m, B.W. 5671, fruiting March 15th 1922.

*Hypolytrum pulchrum* (Rudge) Pfeiff. Fl. p. 130.

428. Weyneweg, between Albina and Moengo tapoe, savannah-forest. Aug. 14th.

1192. Suriname R., near Kabelstation, along railway, open savannah-like place. Leaves grass-green, small ears, brownish white.

1248 & 1261. Savannah near Brownsweg. Nov. 11th and 13th.

*Hypolytrum longifolium* (L. C. Rich.) Nees. Fl. p. 131.

763. Coppename R., near Raleigh-falls, forest. Sept. 11th.

*Lagenocarpus tremulus* Nees. Fl. p. 132.

288. Zandery I, moist savannah. July 29th.

1267. Savannah near Brownsweg. Nov. 13th.

*Scleria stipularis* Nees. Fl. p. 136.

173. Forest Reserve Sectie O, open place in forest, dense vegetation. July 22nd.

*Scleria cyperina* Willd. Fl. p. 138.

335. Zandery I, savannah, sand. July 30th.

1262. Savannah near Brownsweg, flowers yellowish green. Nov. 13th.

*Scleria pterota* Presl. Fl. p. 140.

217. Lower Suriname R., plant. Liberté, side of a ditch of orange-plantation. July 24th.

270. Lower Saramacca R., near plant. Catharina Sophia, ditch. July 27th.

1274. Suriname R., near Gansee, virgin forest. Nov. 15th.

\**Becquerelia cymosa* Brongn. Fl. p. 144.

179. Forest Reserve Sectie O, forest. July 22nd. New for Surinam.

*Becquerelia tuberculata* (Boeck.) Pfeiff. Fl. p. 144.

326. Forest Reserve Zandery I, virgin forest, in creek. 0.80 m high. July 30th.

### AIZOACEAE

by P. J. Eyma (Utrecht).

See Eyma in Fl. of Surinam vol. I. 2. (1934) p. 158—160.

*Sesuvium portulacastrum* L. Fl. p. 160.

547. Sandy beach at Galibi. Flowers pink. August 13th.  
1100. West Coronie near canal on silt soil. Flowers pinkish white. October 22nd.

### EUPHORBIACEAE

See Lanjouw in Fl. of Surinam vol. II 1. (1932) p. 1—101.

*Phyllanthus Urinaria* L. Fl. p. 18.

246. Lower Saramacca River near Groningen. Weedvegetation. July 27th. Second record for Surinam.  
402. Cottica River near Moengo. Weedvegetation near riverbank. August 19th.

*Phyllanthus diffusus* Klotzsch Fl. p. 21.

758. Coppename River near Raleighfalls, on rocks. Flowers white. Leaves spreading horizontally. September 11th.  
969. Coppename River near Raleighfalls, on dry riverbed. September 25th. This specimen has flowers with 2 stamens only.

*Phyllanthus orbiculatus* L. C. Rich. Fl. p. 22.

568. Marowijne River near Langamankondre, shore-vegetation. Flowers green. August 13th.

*Croton Stahelianus* Lanj. Fl. p. 32.

902. Voltzberg. Leaves white with many brown hairs beneath, especially on the nerves. Flowers white. Fruit brown, with long hairs. Shrub 1.50—3 m high, frequent in lower part of the mountain. September 19th.

A remarkable new locality for this species which was hitherto known only from the Upper Koetari River.

I am now able to correct some mistakes in my description based on this latter specimen. Primarily there are 15 stamens and not 11 as I stated. How this mistake occurred I have not been able to trace. Secondly in the specimens collected on the Voltzberg the

styles are not twice, but many times divided. This tendency was already shown in the specimen from the Koetari River, where some of the style branches at the top are divided once more. The specimen from the Voltzberg is more densely stellate, especially on the upper surface in the younger leaves. The ovary is denser and with longer hairs vestited. Moreover the specimens from the Voltzberg are obsoletely biglandular at the base of the limb.

899. Voltzberg near the summit. Leaves white beneath, flowers white, fruit brown, rubiginous pilose. Shrub c. 2 m high. September 19th.

This specimen has more the habit from the plant of the Koetari River, both in shape and colour as in the vestitement of the leaves.

*Croton hirtus* L'Hérit. Fl. p. 37.

85. Charlesburg near Paramaribo, on sandy shell-bank. Flowers white. July 21st.  
561. Marowijne River near Langamankondre, sandy shore. Flowers white. August 13th.

*Croton Miquelensis* Ferguson Fl. p. 38.

1315. Suriname River near Kabelstation. Along railway south of Kabel, edge of forest. Flowers white. November 16th.

*Caperonia palustris* (L.) St. Hil. Fl. p. 40.

249. Lower Saramacca River near Groningen. Weedvegetation. Fruit green. July 27th.  
615. Lower Corantijne River, Corantijnpolder near Nieuw Nickerie. Flowers white. Leaves used for tea. August 27th.  
1044. Cronie border of the kapoewerie. Flowers white. October 20th.

Vernacular names: Bol, Boessie tee.

*Acalypha scandens* Benth. Fl. p. 51.

710. Coppename River near Kaaimanstone, riverbank. Flowers red. Shrub or undershrub. September 7th.  
1159. Suriname River near Kabelstation, riverbank. Stigma's red. Male flowers yellowish brown. Shrub c. 1—1.50 m high. November 8th.

If these specimens really belong to *A. scandens* Benth. is not quite certain, for the same reason as I stated in my "The Euphorbiaceae of Surinam" p. 25. Both collecting numbers are low erect shrubs. It is very unlikely to my opinion, that any specimen of this species should be a climber. A careful examination of all the material of *A. macrostachya* Jacq. var. *macrophylla* (H.B.K.) Müll. Arg. will probably prove that all the material of *A. scandens* belongs to it, thus at present I feel still unable to unite them. It

will probably be necessary to distinguish a new variety of this species on part of the Surinam material. The specimen n. 1159, for instance, differs in some respects from the other material (together with some of the specimens cited already in the Flora). All parts of this plant are less pilose and the hairs, especially of the stems and petioles, are not patent but more or less adpressed and much shorter. In all other parts the plants are identical.

The geographic distribution of *A. macrostachya* points also to an occurrence of this species in the Guianas.

*Ricinus communis* L. Fl. p. 55.

455. Cottica River near Moengo, edge of forest. Flowers red. August 15th.

\**Dalechampia parvibracteata* Lanj. in Rec. trav. bot. néerl. vol. XXXI. (1934) p. 463. (Also Med. Bot. Mus. Herb. Utr. n. 12).

794. Coppename River near Raleighfalls, in the forest. Flowers white, bracts one large and white, the others green. Fruit green. Climbing. September 11th.

From this interesting new species which I described a short time before I departed to Surinam on incomplete material from British Guiana, I was able to collect a nice complete specimen. Unfortunately the name "parvibracteata" is now rather misleading because only one of the two involucre bracts is small, whereas the other one, which was missing in the British Guiana specimen, has the common size and shape from this kind of bracts in the genus. However, it was impossible to expect that the two involucre bracts are unequal, because they are not or only slightly unequal. The only case where the bracts are unequal in the same way I found in *D. humilis* Müll. Arg.

As the material is now complete I can give here some additions to the description which I published one year ago. A leaf, a male flower and an inflorescence is shown in fig. 3.

Stipellae 0.5—1 mm longae, glanduligerae. Bractea involucrealis inferior satis magna 5-nervata, ovata, 8 mm lata, 12 mm longa acute acuminata, basi rotundata, glanduloso-denticulata, utrinque pilis brevibus vestita. De bractea altera stipulisque bractearum confer descriptionem originalem. Inflorescentiae axillares, inferne dichasium foem. 3-florum, superne pleiochasium florum masc. pedunculatum gerentes. Flores foem. breviter pedicellati, pedicellis dense puberulis. Sepala statu florigero c. 2 mm longa, ceterum ut in descriptione. Ovarium dense pubescens. Columna stylaris in statu florigero c. 4 mm longa, parte inferiore cylindrica c. 1 mm lata, pilis brevibus adpressis dense vestita, parte superiore, atra,

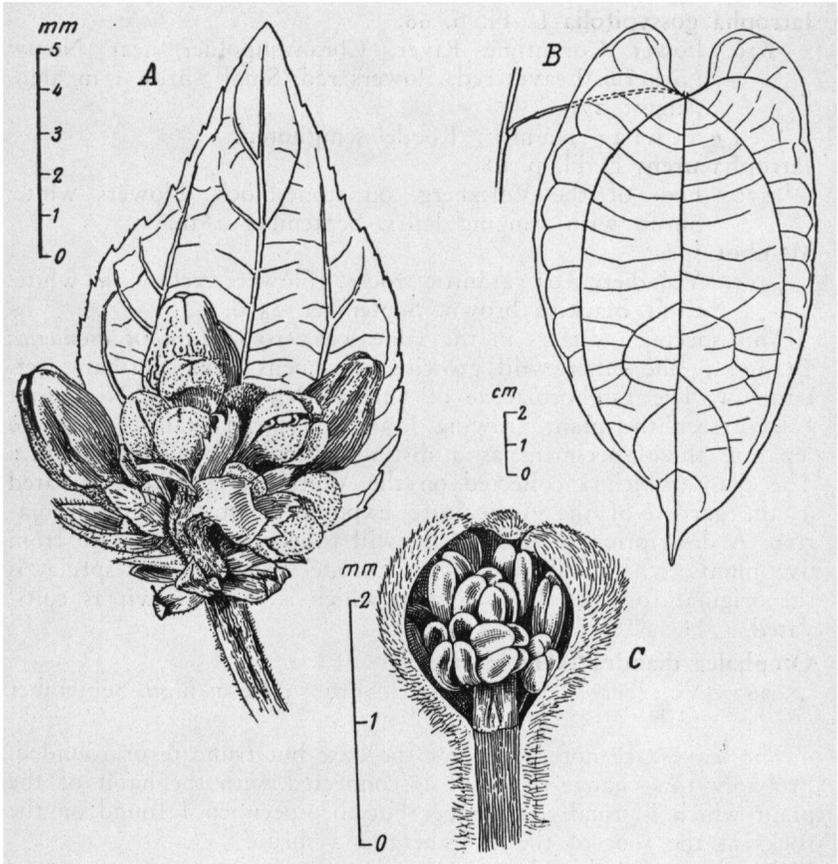


Fig. 3. *Dalechampia parvibracteata* L. n. j. A. Inflorescence, B. Leaf, C. Male flower.

crassa, subovata, apice leviter 3-partita, glabra. Pleiochasium masc. pedunculatum, bracteis 4 involucreatum, pedunculo c. 3 mm longo, dense pubescente; bracteae late oblongae vel orbiculares, extus pilis brevibus adpressis sparse vestitae, margine ciliatae, intus glabrae. Flores masc. c. 10, bracteis truncatis, laceratis, extus punctulatis, intus glabris, margine et apice ciliatis, 1.5—2 mm longis, pedicellis c. 1 mm longis, articulatis, pilis brevibus vestitis, sepalis 4, extus pilis brevibus vestitis, anguste ellipticis, staminibus c. 15. Capsula columna stylari coronata.

*Jatropha gossypifolia* L. Fl. p. 66.

626. Lower Corantijne River, Corantijnpolder near Nieuw Nickerie. Leaves red, flowers red, Small shrub 1 m high. August 27th.

Vernacular name: Roode schijtnoten.

*Jatropha urens* L. Fl. p. 68.

870. Foot of the Voltzberg, on stone-block. Flowers white. Shrub with stinging hairs. September 18th.

*Manihot* spec.

955. Voltzberg, on granitic rocks. Flowers yellowish white. Fruit blackish brown. September 23rd.

This specimen differs in the same way from *Manihot esculenta* Crantz as the other wild growing specimens from Surinam. (cf. Lanjouw The Euphorbiaceae of Surinam 1931 p. 33). Now that I have seen the plant growing I am convinced that we have to separate these specimens as a distinct species from *M. esculenta*. The plant which I collected on the Voltzberg is now cultivated in the garden of the Agriculture Experiment Station at Paramaribo. A description of this species will follow at a later date from live plants, which will be sent to Europe. Probably this species is the original form of *M. esculenta*, which is only known as cultivated.

*Omphalea diandra* L. Fl. p. 77.

967. Voltzberg, on stony plate. Shrub 3—4 m high. September 18th.

The leaves are not cordate at the base but truncate or rounded. Probably this change of shape is connected with the habit of the plant which is usually a climber but the specimen I found on the rocks at the foot of the Voltzberg is a shrub.

*Mabea taquari* Aubl. Fl. p. 80.

1226. Suriname River near Kabelstation, bank of the River. Flowers yellow. Small tree. November 10th.

\**Mabea Schomburgkii* Benth. in Hook, Journ. of Bot. VI. (1854) p. 365; Müll. Arg. in D.C. Prodr. XV 2. (1866) p. 1149; Pax in Engler Pflanzenreich IV. 147. V. (1912) p. 38; Lanjouw in Euphorbiaceae of Surinam (1931) p. 36.

764. Coppename River near Raleighfalls, on stony bank. Fruit reddish yellow, softly pilose with blunt points on the back of the valves. Shrub. September 11th.

973. Coppename River near Raleighfalls, on island. September 25th.

This is the first record of this species for Surinam. As I already

pointed out in my treatise on the Surinam Euphorbiaceae p. 36, fruits are really indispensable for the distinction of this species and of *M. taquari* Aubl. The two collecting numbers mentioned above are both in fruit and show very clearly the points on the back of the valves. It was, however, observed that these valves are not always bimiricate, as was stated before. Sometimes there is only one point developed. Another point of difference between the two species, at least as far as concerns the Surinamian specimens, is found in the hairiness of the lower surface of the leaves, which are nearly glabrous or only slightly hairy along the nerves in *M. Schomburgkii* Benth., whereas the hairiness is much denser in *M. taquari* Aubl. The shrubs of *M. Schomburgkii* were found by me only on the rocks along the Riverbank near Raleighfalls.

Distribution: British Guiana.

*Maprounea guyanensis* Aubl. Fl. p. 85.

1314. Suriname River, along railway south of Kabelstation, edge of forest. Flower-bud yellowish green. November 16th.

*Euphorbia brasiliensis* Lam. Fl. p. 94.

555. Marowijne River near Langamankondre, sandy shore. August 13th.

*Euphorbia hirta* L. Fl. p. 95.

23. Paramaribo near Agric. Experim. Station, grass-field. Leaves green, lighter coloured beneath. Flowers green. July 18th.
1056. Coronie, road-side. Leaves with oblong red spot on the midrib. Flowers green. Stems red, patently hairy. October 20th.

*Euphorbia hypericifolia* L. Fl. p. 97.

248. Lower Saramacca River near Groningen, weed-vegetation. Flowers white. July 27th.
1057. Coronie, road-side. Glands white. October 20th.

*Euphorbia thymifolia* L. Fl. p. 98.

462. Cottica River near Moengo, on roads. Leaves a little lilac especially beneath. Prostrate.
1228. Suriname River near Kabelstation, on rocky island. Leaves purplish red-green above, greyish blue beneath. Buds red. Prostrate. November 10th.

\**Euphorbia heterophylla* L. Amoen. Acad. 3. p. 112.

var. *cyathophora* (Kl. et Gke) Boiss. in D.C. Prodr. XV. 2. p. 72; Müll. Arg. in Mart. Fl. Bras. XI. 2. p. 695.

*Poinsettia cyathophora* Kl. et Gke Linné natürl. Pflanzenkl. Tri-coccae (1860) p. 104.

1. Paramaribo near Agric. Experim. Station, weedvegetation.  
Fruit reddish green. July 18th.

Vernacular name: Melkie Wiwierie.

This is the first record of this species for Surinam.

Distribution: Mexico, West Indian Islands, Brazil.

### RHAMNACEAE

See Lanjouw in Fl. of Surinam vol. II. 1. (1932) p. 102—106.

*Ziziphus Jujuba* Lam. Fl. p. 103.

622. Lower Corantijne River, Corantijnpolder near Nieuw Nickerie. Cultivated by a Creole. August 27th.

Vernacular name: Olijf (Sur. Dutch).

*Gouania Blanchetiana* Miq. Fl. p. 104.

1177. Suriname River near Kabelstation, along the railway.  
Flowers white, fruit green. Liane. November 9th.

### MONIMIACEAE

See Petter in Fl. of Surinam vol. II. 1. (192) p. 107—112.

*Siparuna decipiens* A.D.C. Fl. 110.

817. Coppename River near Raleighfalls, virgin forest.  
Flower-buds greyish green. Tree 15 m high. September 13th.

834. Coppename River near Voltzberg, virgin forest. Sep-tember 14th.

*Siparuna guianensis* Aubl. Fl. p. 110.

- 1318 & 1319. Suriname River, along railway south of Kabel-station, edge of forest. Flowers yellowish green. Novem-ber 16th.

*Siparuna surinamensis* Lanj. nov. spec. ex affinitate *S. bahiensis* Tolmatsch.

Arbor 10—12 m alta; ramuli dense stellato-tomentosi, mox glabrescentes. Folia opposita; petiolus 8—12 mm longus, indu-mento eodem quod in ramis juvenilibus; limbus 12—25 (30) cm longus, 7.5—12 cm latus, ellipticus vel obovato-ellipticus, apice breviter et obtuse acuminatus vel nonnumquam subacutus, basi rotundatus vel obtuso-cuneatus, raro subacutus, integer vel leviter undulatus supra in costa et basi nervis lateralibus stellato-tomen-tosus, subtus praesertim in nervis dense stellato-tomentosus; nervi

secundarii 15—17, supra leviter impressi, subtus prominentes, nervis tertiariis parallelibus conjuncti. Flores monoeci, stellato-tomentosi. Inflorescentiae in axillis foliorum geminatae apice bifidae, racemos subumbellatos florum masculinorum gerentes, basi floribus femineis paucis munitae. Receptaculum masculinum cupuliforme humile, 1.5—2.5 mm. diam. pedicello c. 5 mm longo, stellato-tomentosum, late apertum, margine crasso subintegro, tepalis nullis, velo minuto vel subnullo, stamina 12—15 haud exserta, filamentis brevibus, latis. Receptaculum foemineum subglobosum, apice impressum, 2—2.5 mm diam., pedicello 1—3 mm longo, tepalis subnullis, velo minuto, prominente, angustissime perforato; styli in columnam brevissimam, apice quoad partem exsertam bifidam, coaliti.

**Surinamo:** in monte d. Voltzberg, in silva primaeva (Lanjouw 907, typus, fl. m. Sept. 20, Lanjouw 840, fl. m. Sept. 14).

**Vernacular name:** Jara kopie.

This species is closely related to *S. bahiensis* Tolmatschew (*Notulae Syst. ex Herb. Horti Bot. Petrop. t. II. 1921. p. 155*). By the kindness of Dr. Tolmatschew and the Direction of the Bot. Inst. of the Ac. of Science in Leningrad, I was able to compare my plants with the type. *S. surinamensis* is denser tomentose and especially the female receptacles differ in the shape and the length of the styles. They are pear-shaped and with rather long styles in *S. bahiensis*.

**Siparuna cuspidata** A.D.C. Fl. p. 111.

369. Forest Reserve Sectie O, virgin forest. Flowers reddish. Small tree. August 2nd.

#### MYRISTICACEAE

See van Ooststroom in Fl. of Surinam vol. II. 2. (1934) p. 113—122.

**Iryanthera Hostmanni** Warb. Fl. p. 115.

451. Cottica River near Moengo, forest. Flower-buds cinnamon-coloured. August 15th.

**Vernacular name:** Srè bèbè.

Leaves longer than in the other specimens from Surinam with more side-nerves (17—20).

**Virola surinamensis** (Rol.) Warb. Fl. p. 120.

909. Foot of the Voltzberg, virgin forest. Flowers yellow. Tree 15—20 m high with small buttresses. Sept. 20th.

## MALVACEAE

by H. Uittien.

See Uittien in Fl. of Surinam III. 1. (1932) pp. 1—25.

**Wissadula spicata** Prsl. Fl. p. 4.

941. Foot of the Volzberg (granitic rocks), edge of savannah forest, Sept. 21st. Fruit green.

Second record for Surinam.

**Sida serrata** Willd. Fl. p. 6.

759. Coppename R., near Raleighfalls, on rocks, Sept. 11th. Fruiting.

1213. Suriname R., near Kabelstation. Riverside below Kabel, rocky island. Flowers white. Nov. 10th.

**Sida glomerata** Cav. Fl. p. 7.

777. Coppename R., near Raleighfalls. Forest, in open space. Petals white. Sept. 11th.

The same form with larger leaves as collected by Splitgerber in 1838.

**Sida acuta** Burm. Fl. p. 7.

675. Nickerie. Flowers orange-yellow. Aug. 29th.

**Sida rhombifolia** L. Fl. p. 8.

236. Lower Saramacca R., near Groningen. Flowers yellow-orange; 0.50 high. July 27th.

18. Paramaribo, near Agric. Experim. Station, open forest. Small shrub, yellow flowers. July 18th. (var. *canariensis* Schum. Fl. p. 9).**Malachra fasciata** Jacq. Fl. p. 11.

1036. Coronie, roadside. Flowers white and smaller than of 1035. Oct. 20th.

Vernacular name: Jorka Oker.

**Malachra alceifolia** Jacq. Fl. p. 11.

1035. Coronie, road-side. Flowers yellow. Oct. 20th.

Vernacular name: Jorka Oker.

**Pavonia Typhalaea** Cav. Fl. p. 14.

5. Paramaribo, near Agric. Experim. Station. Flowers white. July 18th.

45. Same locality. Open roadside. Flowers white. July 19th.

**Hibiscus tiliaceus** L. Fl. p. 16.

553. Marowyne R., near Langamankondre. Shore. Flowers yellow. Tree. Aug. 13th.

- Hibiscus Rosa-sinensis** L. Fl. p. 17.  
630. Corantynpolder, near Nieuw Nickerie. Flowers red. Shrub, 3 m. high. Cultivated. Aug. 27th.  
Vernacular name: Matrozenroos.
- Hibiscus sororius** L. f. Fl. p. 18.  
1126. Coronie, swamp. Flowers pink. 1.50—2 m high. Oct. 23rd.
- Hibiscus bifurcatus** Cav. Fl. p. 21.  
272. Lower Saramacca R., near plant. Catharina Sophia, roadside. Stems rough, 0.80—1 m high, flowers pink. July 27th.  
397. Cottica R., near Moengo, riverside. Flowers pink. Aug. 9th.  
Vernacular name: Wilde jorka oker.
- Hibiscus radiatus** Cav. Fl. p. 22.  
629. Corantynpolder, near Nieuw Nickerie. Cultivated. Flowers red. Aug. 27th.
- Hibiscus esculentus** L. Fl. p. 23.  
1134. Coronie, road-side. 0.60 m high, flowers yellow. Oct. 24th.
- Thespesia populnea** (L.) Corr. Fl. p. 24.  
1144. Coronie. Petals yellowish white with inside a dark red-brown spot at the base. Tree. Oct. 25th.  
Vernacular name: Boschkatoen.
- Gossypium barbadense** L. Fl. p. 25.  
573. Marowyne R., near Langamankondre, strandvegetation. Flowers yellow. Aug. 13th.

## BOMBACACEAE

by H. Uittien.

See Uittien in Flora of Surinam III, 1 (1932), p. 26—33.

- Quararibea guyanensis** Aubl. Fl. p. 27.  
706. Coppename R., near Kaaimanston. Flowers white, calyx yellow-green. Branches flat. Tree. Sept. 7th.
- Bombax aquaticum** (Aubl.) Schum. Fl. p. 29.  
414. Cottica R., near Moengo, very frequent along the banks. Petals yellow, filaments and anthers red. Fruit brown. Aug. 10th.  
Vernacular name: Mo Mo.

*Bombax flaviflorum* P. uille. Fl. p. 31.

356. Forest Reserve Zanderij I, before the lodging-house, sand.  
Flowers yellowish-white. Fruit brown. July 31th.

Vernacular names: Para katoen, Sienzon.

## STERCULIACEAE

by H. Uittien.

See Uittien in Flora of Surinam III, 1 (1932), p. 34—48.

*Helicteres pentandra* L. Fl. p. 38.

506. Marowyne R., near Albina, path along the river. Flowers  
red yellow. Shrub. Aug. 11th.

*Melochia lanceolata* Benth. Fl. p. 41.

657. Nieuw Nickerie, swamp behind Waterloo, canal. Flowers  
light pink with yellow centre. Waterplant. Aug. 28th.

*Waltheria americana* L. Fl. p. 43.

91. Charlesburg near Paramaribo, shell-bank. Flowers yellow.  
Shrub, about 0,80 m high. July 21th.

545. Marowyne R., near Galibi. Aug. 13th.

*Guazuma ulmifolia* Lam. Fl. p. 48.

803. Coppename R., near Raleighfalls, virgin forest. Flowers  
yellow brown. Tree about 20 m high. Sept. 13th. Not  
found in Surinam since 1838.

## TILIACEAE

by H. Uittien.

See Uittien in Flora of Surinam III, 1 (1932), p. 49—57.

*Apeiba tibourbou* Aubl. Fl. p. 51. (= *A. albiflora* Ducke, Fl. p. 51).

935. Foot of the Voltzberg, savannah-forest. Vern. name:  
Kankan hoedoe. Fruithairs yellow-brown soft. Tree 15—  
25 m high. Sept. 21th.

*Apeiba glabra* Aubl. Fl. p. 53. (= *A. Burchellii* Sprague, Fl. p. 52).

810. Coppename R., near Raleighfalls, virgin forest. Flowers  
brown yellow. Tree. Sept. 13th.

Vernacular name: Boesi Soersakka.

*Apeiba echinata* Gaertn. Fl. p. 51.

842. Coppename R., Raleighfalls — Voltzberg. Tree, 15 m  
high. Sept. 14th.

Lanjouw nr. 935 is the first fruiting specimen of *Apeiba*

*tibourbou* found in Surinam. After studying the specimens of *A. tibourbou* and *A. albiflora* in the herbaria of Kew and the British Museum, and comparing them with those of *A. Schomburgkii*, *A. surinamensis* and *A. tibourbou* var. *membranacea*, I have come to the conclusion, that the first-mentioned two species can not be separated, nor the three last-mentioned either, but that there is a specific difference between *A. tibourbou* and its so-called var. *membranacea*, which should be named *A. Schomburgkii*. I found that the type-specimen of Aublets *A. glabra*, which never has been re-found, agreed with *A. Burchellii*. So I have to make an addition to the nomina confusa *A. aspera* and *A. petoumo* of Aublet, formerly published in Rec. Trav. Bot. Néerl. XXII (1925), p. 359—362. It may be useful to give a synopsis of the whole genus, with an enumeration of the specimens in the Kew-Herbarium (K.), British Museum (L.) and the herbarium at Utrecht (U.).

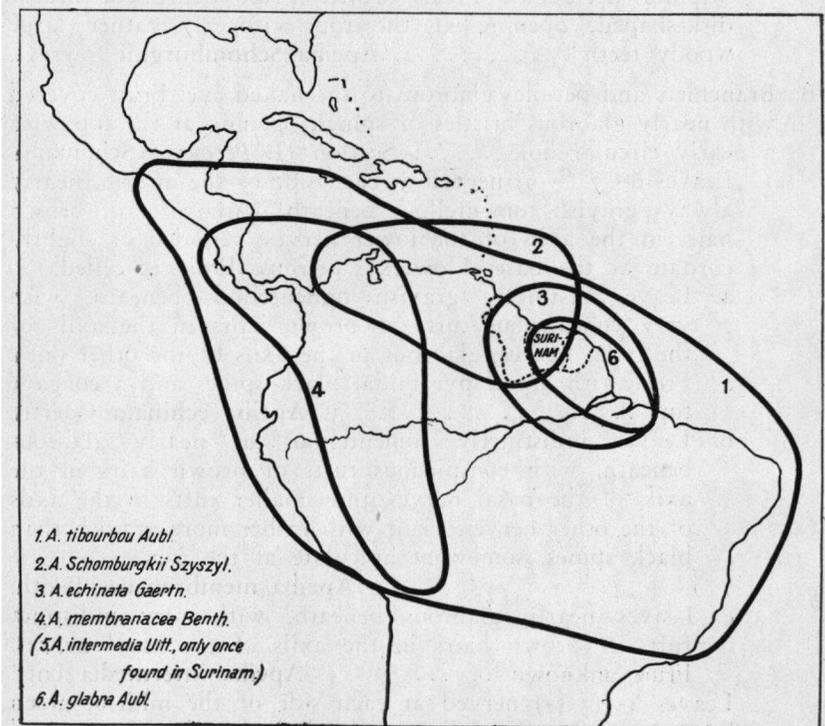


Fig. 4. Geographical distribution of the species of Apeiba.

Synopsis of the genus *Apeiba*.

- A. Branchlets and petioles villous with long brown hairs. Fruit covered with hirsute bristles, opening at the top with woody teeth ..... Section I. *Tibourbou* Schumann.
1. Leaves rather thick, very rugose above, usually densely tomentose beneath (see var. *Krukoffii* Uitt.), distinctly cordate at the base, crenate-serrate or serrate at the margin, 10- (9-15-) nerved at each side of the midrib. Stipules persistent. Petals yellowish or white. Fruit nearly globose, slightly depressed, opening at the top with very small woody teeth (or perhaps sometimes indehiscent?)
    1. *Apeiba tibourbou* Aubl.
  2. Leaves membranous, smooth above, sparingly tomentose beneath, indistinctly cordate or rounded at the base, serrate at the margin, 8- (7-9-) nerved at each side of the midrib. Stipules deciduous. Petals white. Fruit depressed, nearly disk-shaped, opening at the top with 3-7 rather large woody teeth ..... 2. *Apeiba Schomburgkii* Szyszyl.
- B. Branchlets and petioles glabrous to the naked eye. Fruit covered with nearly glabrous bristles or spines, opening at the top with a nearly circular hole ..... Section II. *Petoumo* Schumann.
1. Leaves 6-7 (-9) nerved at each side of the midrib, nearly always grayish tomentellous beneath, with tufts of brown hairs in the axils of the lower nerves, rounded or slightly cordate at the base. Flowers 5-merous. Fruit 10-celled.
    - a. Leaves distinctly grayish tomentellous beneath, with very conspicuous tufts of brown hairs in the axils of the basal nerves, glabrous in the axils of the other ones. Fruit with broad pyramidal black spines and a concave top ..... 3. *Apeiba echinata* Gaertn.
    - b. Leaves indistinctly tomentellous or nearly glabrous beneath, with conspicuous tufts of brown hairs in the axils of the basal nerves and smaller tufts in the axils of the other nerves. Fruit with rather more grayish than black spines, somewhat apiculate at the top
      4. *Apeiba membranacea* Benth.
    - c. Leaves nearly glabrous beneath, with very indistinct tufts of brown hairs in the axils of the basal nerves. Fruit unknown ..... 5. *Apeiba intermedia* Uitt.
  2. Leaves 4- (3-5-) nerved at each side of the midrib, green beneath, apparently glabrous, but clothed with microscopical scaly hairs, with very small tufts of hairs in the axils of

the nerves, rounded or gradually narrowed to the base. Flowers 4-5-merous. Fruit clothed with thin, fragile, bristles, 20-25-celled . . . . . 6. *Apeiba glabra* Aubl.

1. *Apeiba tibourbou* Aubl., Pl. Guiane Franc. I. 538, t. 213 (1775); K. Schum. in Mart. Fl. Bras. XIII, 3, (1886), p. 143, Tab. XXIX, except for the fruit; not of H. B. K.; — *A. hirsuta* Lam., Enc. Meth. I (1783), p. 208; — *A. cimbalaria* Arruda, in Koster, Trav. Braz. (1816), p. 488. — *A. monadelpha* Arruda, l.c. = praec.; — *A. tibourbou* Aubl. var. *rugosa* Szyszyl. in Diss. Mathphys. Acad. Crac. XXVII (1894), p. 140. (The leaves of the type-specimen, Sagot 59, are rather narrow, 14—19 cm long and 5—7 cm broad; the Surinam specimens Lanjouw 935 and Stahel 71 are very similar, but the variety merges gradually into the typical form); — *A. albiflora* Ducke in Arch. Jard. Bot. Rio de Jan. III (1922), p. 209, Tab. 20 ("Partibus vegetativis speciei *A. tibourbou* Aubl. simillima, differt floribus albis odoratis, capsula globoso-obcordata longissime (2 ad 3 cm) molliusque setosa."). There is some variation in the shape of the fruit and the length of its bristles, but I do not think it will be possible to separate *A. albiflora* from *A. tibourbou*. I have seen three specimens of the six, cited by Ducke, viz. 15969, 14921 and 4730. The fruits are respectively slightly depressed, exactly globose and globose, slightly obovoid; the length of the longest bristles: 2,5 cm, 3,25 cm and 3 cm. The fruit of Krukoff 1220 (distributed as *A. tibourbou*) is exactly globose, with bristles up to 2,5 cm long. Sutton-Hayes 719 has slightly depressed fruits (2,5 × 2,9 cm) with bristles up to 2 cm long. The fruits of Baker 2323 are rather young, depressed and with bristles of about 1 cm long. The fruit of Pittier 13492 is depressed, with 1—1,5 cm long bristles, just as Fendler A 125. The fruits of Lanjouw 935 are depressed, with bristles up to 3,5 cm long; the bristles at the top of the fruit are rather short (not yet fullgrown perhaps?), whereas they are about as long as the lateral ones in the specimens of Ducke. About the fragrance of the flowers nothing is to be found on the labels. The colour of the flowers is only mentioned occasionally. Wherever the colour of the petals is mentioned, they are said to be white, (Steinbach 6707, Sagot 59, Forest-Dep. Brit. Guiana 2180), except by Aublet, who says: "calice . . . jaune en dedans; corolle . . . un jaune doré" (translated by Schumann, l.c. as: "aurantiaca"). The yellow sepals being very conspicuous, such a statement as "flowers yellow" (Sutton-Hayes 719, Broadway 202 with very young flowers!, Har-

ris 6506 and Ule 6078) or "pale yellow flower" (William 280) has not much conclusive force. On the whole the white colour of the flower is of no importance at all for the taxonomy of a genus, which includes species with white flowers (*A. Schomburgkii*) and yellow flowers as well.

- Brazil, Para, Belem (Siqueira 8298 ex Ducke, Huber 9333 [U., L.]); Gurupá (Ducke 15969 [K., L.]); Jary R. (Snethlage, ex Ducke); Almeirim (ex Ducke); Obidos (Ducke 17007 [L.]); Rio Trombetas (Ducke 15896 [L.]); Ariramba R. (Ducke 14921 [L.]); between S. João and S. Anna (Burchell 9220 [K.]); Maranhao, S. Luiz (Lisboa 4730 [U.]); Maracassume R. (Krukoff 1807 [K.]); Ceara, (Gardner 1476 [L.]); Pernambuco, (Ridley, Lea and Ramage [L.]); Goyaz, (Gardner 3033 [K.], Glaziou 20738 [K.], Burchell 6333 [K.]); Minas Geraes, (Clausen [K.]); Rio de Janeiro, (Glaziou 2899 [K.] & 10331 [K.], Miers 3828 [K.]); Matto Grosso, Upper Machado R. near Tabajara (Krukoff 1518 [K., L., U.]); Amazonas, Crato (Gardner 1476 [K., L.]); Rio Madeira, Marmellos (Ule 6078 [K.]). Brazil: Whitford 37 [K.], Vautier [K.], Glocker 228 [L.], Chalmers [K.];
- Bolivia, Santa Cruz (Steinbach 6707 [U., K., L.]); Guanai (Rusby 612 [K., L.], Bang 1701 [K., L.] & 1703 (less hairy) [K., L.]); Lake Rogagua (Mulford Exp. 1398 [K.]); Reyes (Mulford Exp. 1323 [K.]); Ixiamas (Williams 280 [K., L.]); San Buena Ventura (Williams 629 [K.]);
- French Guiana, (Aublet [L.], Rudge [L.], Martin [L.], Sagot 59 [U., L., K.], Mélinon 50 [K.], Leprieur [K.], Poiteau [K.], Broadway 202 [K.]);
- Surinam, (Dumortier 18 [U.], Hostmann 228 [L., K.]); Upper Surinam R. (Stahel 71 [U.]); Voltzberg (Lanjouw 935 [U.]);
- British Guiana, Pirara (Forest-Dep. 2180 [K.]);
- Venezuela, Maypures (Spruce, [K.]); Caracas (coll. ign. [L.]); without loc. (Moritz 550 [L.], Fendler A. 125 [K.], Funck & Schlim 651 [L.] & 89 [K.]);
- Tobago: Barclay 980 [L.];
- New Grenada: Linden 1458 [L., K.];
- Panama: Sutton Hayes 719 [K., L.]; Seemann 316 [L.]; Fendler 326 [K.]; Pittier 2303 [K.];
- Costa Rica, Nicoya (Pittier 13492 [L., K.]);
- Nicaragua, Granada (Baker 2323 [K.]);
- Mexico, Guichilona (Andrieux 501 [K.]); Central America (Barclay [K.]);

**Var. Krukoffii** Uitt. nov. var. Folia 8—9-nervia, tenuiter membranacea, supra valde rugosa, subtus nervis exceptis fere glabra, reticulato-nervosa, angusta, 23—30 cm longa, 6—9 cm lata.

Krukoff 1567, Dec. 1931. State of Matto Grosso: source of the Jatuarana River, Machado River region. "Pente de Macaco". Tree 35 ft. high, in terra firma. Angustura. [U.: type-specimen, K., L.]

Jamaica: Harris 6506 [L.]. Not mentioned in Fawcett & Rendle's Flora of Jamaica V (1926).

2. *Apeiba Schomburgkii* Szyszyl. in Diss. Math-phys. Acad. Crac. XXVII (1894), p. 140; — *Aubletia Tibourbu* Swartz, Prod., p. 82 (1788) & Fl. Ind. Occid. II (1800), p. 944, as far as the specimens cited from the West-Indian Islands; — *Apeiba Tibourbou* Aubl., var. *membranacea* Lockh. ex Griseb., Fl. W. Ind. Isl. (1864), in addendis, p. 708; Williams and Cheesman, Flora of Trinidad and Tobago I, 2, p. 108 (1929); — *A. tibourbou* Aubl., according to K. Schum. in Mart., Fl. Bras. XII, pars III, p. 143 and Tab. XXIX, as to the fruit; — *A. surinamensis* Uitt. in Rec. d. Trav. Bot. Néerl. XXX (1933), p. 184; id. in Meded. Bot. Mus. & Herb. Utr. 5 (1933), p. 22; id. in Pulle, Flora of Surinam III, 1 (1932), p. 51; — *A. hispida* Gaertn., Fruct. II (1802), p. 188, Tab. CXXI, excl. the synonym (The figure might represent *A. aspera* Aubl. nearly as well, but his remark „ambigit haec species inter *A. Tibourbou* et *Petoumo* Aubl. cum priori enim longitudine spinarum, et cum posteriori numero loculamentorum congruit” suggests *A. Schomburgkii*).

Surinam: Voltzberg (Pulle 217 [U., K.]); Brazil: Upper Rio Branco, Surumo R. (Ule 8215 [K.]); Boa Vista (Kuhlmann 3513 [U., K.]); Brit. Guiana: (Schomburk 734 [L., K.] & 400 [K.]); Venezuela: on the Caura (André 8 [K.]); Caracas (Karsten [Vienna, ex Szyszyl.]); Trinidad: (Lockhart s.n. [K.], Ryan [L.], Broadway s.n. [L.], 10255 [K.] & 7405 [K., L.], Williams 12053 [K.]); Tobago: (Greig [L.], Buthun 11753 [K.], Broadway 3407 [K.], Eggers 5537 [K.]); St. Vincent: (Guilding [K.]); Colombia: Magdalena Valley, near Lake Zapatosa (Gril Allen 316 [K.]), Puerto Nacional (coll. ign. [K.]), Ocana (Purdie [K.]); There is a specimen in the Brit. Museum from an unknown collector, marked with pencil: "Catey-Jamaica". (Fawcett & Rendle's Flora of Jamaica V (1926) does not mention the genus) It might be a mistake.

3. *Apeiba echinata* Gaertn. Fruct. II, p. 189, Tab. CXXI (1802), emend. Uitt., in Rec. Trav. Bot. Néerl. XXII (1925), p. 360; — *A. aspera* Aubl., Hist. Pl. Guiane Franc. I (1775), p. 545, t. 216, as to the fruit (nomen confusum); — *A. petoumo* Aubl., l. c., p. 543, t. 215, as to the leaves and the inflorescence (nomen confusum); Ducke in Arch. Jard. Bot. Rio Jan. IV (1925), p. 119; — *Aubletia aspera* Willd., Spec. Pl. II, 2 (1799), p. 1156, partly; — *Aubletia petoumo* Willd., l. c., partly; — *Aubletia discolor* Spreng., Neue Entd. II (1821), p. 166; — *Apeiba discolor* G. Don., Gen. Syst. I (1831), p. 555; — *A. hypoleuca* Steud. in Flora 1843, p. 755; Sagot in Ann. Sc. Nat. VI Sér., XI (1881),

p. 155; Hostmann et Kappl., Pl. Surin. 294; — *A. macropetala* Ducke in Arch. Jard. Bot. Rio Jan. IV (1925), p. 120.

British Guiana: Corantyne R. (Im Thurn [K.]); Essequibo R. (Appun 344 [K.]); Upper Demarara R. (Jenman 4135 [K.]); Pomeeroon R. (Jenman 1616 [K.]); Essequibo R., Moraballi Creek (Sandwith 73 [K.], 430 [K., U.] & 622 [K., U.]);

Surinam: Besides the specimens, cited in the flora, p. 52; Hostmann 294 [K., L.]; Berthoud-Coulon 544 [L.]; Anderson [L.]; Coppename R., Voltzberg (Lanjouw 842 [U.]);

French Guiana: Aublet [L.]; Rudge [L.]; Godebert, Débroussé & Wachenheim 64 [K., L.]; Martin [L.]; Wachenheim 246 [K.];

Brazil: Para, Trombeta R., upper Mapuera R. (Ducke 18072, ex Ducke); Belem do Pará (Ducke 18080 [U., K.] Type-coll. of *A. macropetala* Ducke; the fruits look rather like those of *A. membranacea*, but the leaves are true *echinata*-leaves but for the hairtufts which are eaten by insects, probably cocci) Upper Cupary R., plateau between the Xingu and Tapajos Rivers (Krukoff 1186 [U., L.] & 1158 [U., K., L.] Both specimens (distributed as *A. macropetala*) have remarkably thin leaves, as the Surinam specimen B.W. 4177, but they are in every other respect quite typical. N. 1168 is fruiting).

4. *Apeiba membranacea* Spruce ex Benth. in Proc. Linn. Soc. Bot. V. (1861), suppl. II, p. 61; K. Schum. in Mart., Fl. Bras. XII, pars II (1886), p. 145; Ducke in Arch. Jard. Bot. Rio Jan. IV (1925), p. 120. Very closely related to the preceding species.

Venezuela: Casiquiare, Vasiva & Pacimoni R. (Spruce 3204 [K., L.]);

Brazil: Near the Bolivian frontier, between the Abuna and Acre R. (Kuhlmann 18075 [U.]); Yapura R. (Ducke 6795 & 12222 ex Ducke); Rio Negro, Santa Izabel (Ducke 24035 [U.]);

Bolivia: Rio Acre (Ule 9585 [K.]); Mapiri (Rusby 723 [K., L.]);

Peru: Loreto, Rio Putumayo, at mouth of Rio Zubineta (Klug 2343 [K.]);

Colombia: Antioquia (Purdie [K.], Jervis [K.], fruit only); Barbacoas (Triana 5364 [L.] & s.n. [K.]);

Panama: Colon, Nombre de Dios (Pittier 4087 [L.]); Isthmus (Sutton Hayes [K.], fruit only);

Costa Rica: Rio Hondo (Pittier 16377 [K.]).

5. *Apeiba intermedia* Uitt. in Rec. Trav. Bot. Néerl. XXII (1925), p. 362; id. in Pulle, Flora of Surin. III, 1 (1932), p. 53. Imperfectly known. Besides the specimens, cited in the flora, perhaps Martius' *Apeiba* n. 2 from Brazil, prov. Pará [K.] belongs to this form, which might be a hybrid between *A. echinata* and *A. glabra*.

6. *Apeiba glabra* Aubl., Hist. Pl. Guiana Franc. I, (1775) p. 538; Lam., Enc. Meth. I, (1783), p. 209; — *A. levis* Aubl., l. c. IV, t. 214. (The inflorescence is badly drawn; it should have been smaller and opposite to the leaves. The flowers are too large and 5-merous, whereas they are usually 4-merous, though 5-merous flowers are not rare in the Brazilian specimens, of Ducke, viz. n.

11267 and 18073 (Ducke in Arch. Jard. Bot. Rio Jan. IV, 1925, p. 121). The figures 7 & 8 represent the same fruit as figured on Pl. 215, only in an older state, when the bristles are worn. But there is no evidence of Aublet's confusing two species here, as he did in the case of *A. petoumo* and *A. aspera*. Only young leaves are extant in the type-specimen in the British Museum. They agree very well with those of the types of *A. aspera* and *A. Burchellii*. Therefore the oldest validly published name of the species is *A. glabra* Aubl. the specific name used in the description having priority over the name *A. levis*, which is found on Pl. 214); — *A. aspera* Aubl., l. c., p. 545, t. 216 and many later authors, as to the leaves; — *A. petoumo* Aubl., l. c., p. 543, t. 215 and later authors, as to the fruit. (The last two names have to be considered as nomina confusa, as both species were based on material of two different species, viz. *A. glabra* Aubl. and *A. echinata* Gaertn.); — *Aubletia laevis* Swartz, Prod. (1788), p. 83; Willd., Spec. Pl. II, 2, p. 1156; — *Aubletia aspera* Willd., l. c., (1799), p. 1156, partly; — *Aubletia petoumo* Willd., l. c., partly; — *Apeiba Burchellii* Sprague in Bull. Boiss. 2e Sér., V, p. 703 (1905); Uitt. in Rec. Trav. Bot. Néerl. XXII (1925), p. 361; Ducke in Arch. Jard. Bot. Rio Jan. IV (1925), p. 120.

Surinam: Coppename R., Raleighfalls (B.W. 6153, 6258 & Lanjouw 810 [U.]); Gonini R. (B.W. 3707 [U.]); French Guiana: (Aublet [L.], Poiteau [K.], Martin [L.]); Brazil: Para (Burchell 9480 [K., U.] & 9745 [K.]), Belem do Para (Ducke 11267 [U.]), Braganca (Ducke 18073, ex. Ducke l.c.), Para, Sao Caetano de Odivelas (Ducke 15277 [U.]).

Excluded or imperfectly known species:

*Apeiba ulmifolia* H.B.K., Nov. Gen. Sp. V (1821), p. 347 (270) "Nonnisi fragmenta suppetunt". As the ovary is described as glabrous, it can not be an *Apeiba*.

*Apeiba australis* A. Rich., Fl. Nov. Zel. t. 34 (1833) = *Entelea arborescens* R. Br. in Bot. Mag. t. 2480 (1807).

*Apeiba emarginata* Lam., Enc. I (1783), p. 210 = *Sloanea emarginata* L. (1753), Sp. Pl. 512 = *Mimusops emarginata* (L.) Britton in Torreya 11 (1911), p. 129.

*Apeiba tibourbou* H.B.K., Nov. Gen. Sp. V. (1821, p. 347 (270). A sterile specimen with leaves "apice emarginata... quinquenervia".

## GUTTIFERAE

by P. J. Eyma (Utrecht).

See Eyma in Fl. of Surinam vol. III. 2. (1934) p. 65—118.

*Vismia angusta* Miq. Fl. p. 74.

398. Cottica River near Moengo, riverside. August 9th.

*Vismia cayennensis* (Jacq.) Persoon Fl. p. 75.

96. Charlesburg near Paramaribo; grove on shell-bank. Calyx reflexed when fruiting; fruit green. Tree 6—7 m high. July 21st.

972. Coppename River near Raleighfalls. Petals green outside, white inside. September 25th.

1180. Along the railway near Kabelstation. November 9th.

*Vismia guianensis* (Aubl.) Choisy Fl. p. 80.

344. Forest Reserve Zanderij I, forest. Leaves rustcoloured beneath; fruit green; tree c. 9 m high. July 31st.

*Clusia nemorosa* G. F. W. Meyer Fl. p. 92.

140. Zanderij I, wet savannah; shrub 0.80 m high. Not typical. July 22nd. (female).

194. Zanderij I, savannah; flowers white; male. Dubious. July 22nd.

292. Zanderij I, moist savannah. Small shrub, larger in dry places. July 29th. (male).

876. On flat rocks at the base of the Voltzberg. Shrub 3—4 m high. Flowers white. September 18th. (male).

*Clusia pana-panari* (Aubl.) Choisy Fl. p. 97.

797. Coppename River near Raleighfalls. Petals yellow with a red longitudinal stripe inside. September 12th. A large leaved male tree.

876a. On flat rock at the base of the Voltzberg. Fruiting shrub, 3—4 m high. Flowers white. September 18th.

*Clusia parvicapsula* Vesque Fl. p. 99.

974. Coppename River, on island near Raleighfalls. Small tree with low branches; flowers white, hermaphroditic. September 25th.

Vernacular name: Mangro.

*Platonia insignis* Mart. Fl. p. 114.

1000. Coppename River near Raleighfalls. Tree 20 m high. Flowers flesh-coloured. September 26th.

1257. Savannah near Brownsweg. November 13th.

*Symphonia globulifera* L.f. Fl. p. 117.

408. Cottica River near Moengo, in virgin forest. Flowers red.  
In this forest abundant. August 10th.

Vernacular name: Matatji.

### LECYTHIDACEAE

by P. J. Eyma (Utrecht).

See Eyma in Fl. of Surinam vol. III. 2. (1934) p. 119—155.

*Gustavia augusta* Alm. Fl. p. 122.

1193. Along railway near Kabelstation, on open savannah-like place. Small tree; petals light pink, free parts of the filaments pink, the connate part white, anthers yellow. November 9th.

1215. Suriname River near Kabelstation. November 10th.

Vernacular name: Man tapoeripa.

*Eschweilera subglandulosa* (Steud.) Miers Fl. p. 134.

360. Forest Reserve Zanderij I, forest. Tree c. 15 m high. Buds yellowish green. July 31st.

Vernacular name: Oeman barkrakkie.

818. Coppename River near Raleighfalls, in virgin forest. Tree  $\pm$  25 m high. Petals white; staminodes yellow.

Vernacular name: Barklak.

1154. Suriname River near Kabelstation, river-banks. Fruit brown. November 8th.

### APOCYNACEAE

by J. Lanjouw and Fr. Markgraf (Berlin—Dahlem).

See Markgraf in Fl. of Surinam vol. IV. 1. (1932) p. 1—65.

*Ambelania Sagotii* Müll. Arg. Fl. p. 7.

416. Cottica River, mouth of the Patamacca River, Forest. White milky juice. Fruit edible. August 10th.

Vernacular name: Bat batti.

*Allamanda cathartica* L. Fl. p. 10.

392. Cottica River near Moengo, riverside. Flowers yellow. White milky juice used as a remedy against enlarged spleen (bitter). August 9th.

574. Marowijne River near Langamankondre, sandy-shore forest. Fruit green, August 13th.

- Plumeria bracteata* A. D. C. Fl. p. 15.  
 1252. Savannah near Brownsweg. Tree with white milky juice.  
 Flowers white. November 13th.  
 Collected only once before.
- Lochnera rosea* (L.) R. Ch. b. Fl. p. 22.  
 105. Charlesburg near Paramaribo, on open half-shaded spot.  
 Flowers pinkish red. July 21st.
- Rauwolfia paraensis* Ducke Fl. p. 24.  
 1255. Savannah near Brownsweg. Flowers greenish white with  
 brown stripes. November 13th.  
 Collected only once before.
- Thevetia peruviana* (Pers.) Merr. Fl. p. 25.  
 577. Marowijne River near Langamankondre, sandy-shore.  
 Shrub with yellow flowers. The fruits are used by the  
 Bush-negro's for making chains. When they dance this  
 chains are bent round the legs. August 13th.  
 Vernacular name: Tawai.
- Tabernaemontana undulata* Vahl Fl. p. 30.  
 790. Coppename River near Raleighfalls, virgin forest. Flower-  
 buds pinkish white. September 11th.  
 1294. Suriname River near Gansee, virgin forest. Shrub with  
 light pink flowers. November 15th.
- Tabernaemontana repanda* E. Mey Fl. p. 31.  
 222. Lower Suriname River, plant. La Liberté. Shrub 3 m  
 high. White milky juice. July 24th.  
 The leaves are larger and with more side-nerve than in  
 the other specimens from Surinam.  
 1170. Suriname River near Kabelstation, riverside. November  
 8th.
- Tabernaemontana grandiflora* Jacq. Fl. p. 34.  
 113. Charlesburg near Paramaribo, open forest. Tree c. 4 m  
 high. July 21st.  
 256. Lower Saramacca River near Groningen, along road.  
 Fruit green, seed black with red arillus. July 27th.  
 1056. Coronie near Iengie Kondre. October 21st.  
 Vernacular name: Skijtnotto.
- Tabernaemontana heterophylla* Vahl Fl. p. 35.  
 94. Charlesburg near Paramaribo, shell-bank. Shrub 0.80 m  
 high. July 21st.
- \**Tabernaemontana rupicola* Benth. in Hook. Journ. Bot. III.  
 (1841) p. 243; Müll. Arg. in Mart. Fl. Bras. VI. 1. (1860)  
 p. 74-

861. Coppename River near Raleighfalls, forest. Petals white, tube outside pink. Shrub c. 3 m high. September 10th. First record for Surinam.  
Distribution: British Guiana.
- Echites trifida* Jacq. Fl. p. 40.  
1212. Suriname River near Kabelstation. Liane with pink flowers. November 10th.
- Mandevilla scabra* (R. et Sch.) K. Schum. var. *intermedia* Müll. Arg. Fl. p. 45.  
337. Forest Reserve Zanderij I, sandy savannah. Climbing plant with yellow flowers. July 30th.
- Mandevilla subspicata* (Vahl) Mgf. Fl. p. 45.  
853. Coppename River near Raleighfalls, virgin forest. Liane with yellow flowers. September 16th.  
993. Coppename River near Raleighfalls, Shrub with white flowers on creek-bank. September 26th.
- Odontadenia nitida* (Vahl) Müll. Arg. Fl. p. 50.  
1208. Along railway near Kabelstation. Liane with yellow flowers. November 9th.  
1330. Suriname River near Kabelstation, edge of forest. Liane with white milky juice. Flowers yellow with a red base. November 16th.
- Odontadenia cururú* (Mart.) K. Schum. Fl. p. 52.  
1280. Suriname River near Gansee, virgin forest. Liane with yellow flowers. November 15th.
- Rhabdadenia biflora* (Jacq.) Müll. Arg. Fl. p. 54.  
1087. Coronie, ditch. Liane creeping as far as the middle of the ditch. Flowers white. October 22nd.
- Rhabdadenia macrostoma* (Benth.) Müll. Arg. var. *pubescens* Müll. Arg. Fl. p. 54.  
1082. Coronie, border of swamp. Flowers pinkish red. Liane.
- Malouetia tamaquarina* (Aubl.) A.D.C. var. *minor* A.D.C. Fl. p. 58.  
971. Coppename River near Raleighfalls, on creek-bank. Shrub with white flowers. September 25th.

### CONVOLVULACEAE

by S. J. van Ooststroom (Leiden).

See van Ooststroom in Fl. of Surinam IV, 1 (1932) p. 66.

*Maripa glabra* Choisy Fl. p. 72.

915. Voltzberg, foot, virgin forest, Sept. 20th. Liane, flowers white.

- Bonamia maripoides* Hall. f. Fl. p. 75.  
 362. Forest Reserve Zanderij I, virgin forest, on sand, July 31st. Buds brown, liane.  
 806. Coppename River near Raleighfalls, virgin forest, Sept. 13th. Liane, in fruit.
- Jacquemontia tamnifolia* (L.) Griseb. Fl. p. 77.  
 214. Lower Suriname River, Plant. Liberté, weed-vegetation, July 24th. Flowers whitish lilac. Climbing over the herbs.
- Aniseia cernua* Moric. Fl. p. 78.  
 469. Cottica River near Moengo, on cut forest ground, August 16th. Flowers white. Climbing.
- Aniseia martinicensis* (Jacq.) Choisy Fl. p. 79.  
 400. Cottica River near Moengo, dry little dike near riverside, August 9th. Creeping over the ground. Flowers white.
- Merremia umbellata* (L.) Hall. f. Fl. p. 81.  
 1058. Coronie, Staalweide, October 20th. Flowers yellow. Liane.  
 1083. Coronie, road-side, October 21st. Flowers yellow.
- Merremia glabra* (Aubl.) Hall. f. Fl. p. 82.  
 468. Cottica River near Moengo, on cut forest ground, August 16th.  
 1175. Suriname River near Kabelstation, along railway, November 9th. Flowers white. Liane.
- Merremia cissoides* (Vahl) Hall. f. Fl. p. 84.  
 81. Charlesburg near Paramaribo, shell-bank, savannah, July 21st. Flowers white.
- Ipomoea Nil* (L.) Roth. Fl. p. 90.  
 954. Voltzberg, foot, September 23rd. Flowers light blue. Liane.
- Ipomoea Parkeri* Choisy var. *subsericea* Meissn. Fl. p. 92.  
 1064. Iengie Kondre near Coronie, October 21st. Flowers red purple. Liane.
- This variety appears to be limited to the neighbourhood of Coronie; the type-specimen was collected by Wullschlaegel, near Salem.
- Ipomoea tiliacea* (Willd.) Choisy Fl. p. 93.  
 264. Lower Saramacca River near plant. Catharina Sophia, ditch, July 27th. Flowers reddish lilac.  
 535. Marowijne River near Arminafalls, August 12th. Flowers lilac. Liane.  
 719. Coppename River near Kaaimanstone, riverside, September 7th. Flowers pink. Liana.  
 1086. Coronie, side of a ditch, October 22nd. Flowers pink.

- Ipomoea Batatas* (L.) Lam. Fl. p. 94.  
 51. Paramaribo, near Agric. Experim. Station, cultivated by the Javanese, July 19th. Flowers white violet. Creeping.
- Ipomoea pes-caprae* (L.) Sweet Fl. p. 96.  
 546. Marowijne River near Galibi, shore, August 13th. Flowers pink.
- Ipomoea reptans* (L.) Poir. Fl. p. 96.  
 56. Paramaribo, near Agric. Experim. Station, in water, July 20th. Flowers light violet. Creeping in the water.  
 603. Lower Corantijne River, Corantijnpolder near Nieuw Nickerie, creeping in water, August 27th. Flowers pinkish white outside, lilac inside.
- Ipomoea subrevoluta* Choisy Fl. p. 97.  
 653. Swamp behind Waterloo near Nieuw Nickerie, border of swamp, August 28th. Flowers lilac red. Climbing.  
 1050. Coronie, Staalweide, October 20th. Flowers red. Liana.
- Ipomoea Quamoclit* L. Fl. p. 98.  
 281. Lower Saramacca River near plant. Catharina Sophia, roadside, July 27th. Flowers red.
- Ipomoea tuba* (Schlechtend.) G. Don Fl. p. 99.  
 674. Nickerie River, on bank, August 29th. Vine.
- Ipomoea Riedelii* Meissn. Fl. p. 101.  
 901. Voltzberg, September 19th. Fruit brownish black. Liane. In Surinam this species is only known from the Voltzberg.
- Ipomoea phillomega* (Vell.) House Fl. p. 101.  
 924. Voltzberg, foot, savannah forest, September 21st. Flowers purplish red. Liane.

## LOGANIACEAE

See van Raalte in Fl. of Surinam vol. IV. 1 (1932) p. 103—110.

- Spigelia anthelmia* L. Fl. p. 104.  
 2. Paramaribo near Agric. Experim. Station, weedvegetation. July 18th.  
 250. Lower Saramacca River near Groningen, weedvegetation. July 27th.  
 509. Marowijne River near Albina, weedvegetation. August 11th.
- Antonia ovata* Pohl Fl. p. 106.  
 1242. Savannah near Brownsweg. Fruit green. November 11th.

## PEDALIACEAE

See Pulle in Fl. of Surinam vol. IV. 1. (1932) p. 111—112.

*Sesamum indicum* L. Fl. p. 112.

591. Lower Nickerie River near Paradise, waterside. August 26th.

## RUBIACEAE

by C. E. B. Bremekamp.

See Bremekamp in Fl. of Surinam IV. 2. (1934) pp. 113—298.

*Sipanea pratensis* Aubl. Fl. p. 128.

755. Coppename River near Raleighfalls, forest. Flowers white. September 10th.

1006. Coppename River, Kalebas creek. October 1st.

\**Sabicea cinerea* Aubl. Pl. Guian. fr. (1175) p. 193, t. 75; Wernham Monogr. of *Sabicea* (1914) p. 46, t. XII n. 47.

410. Cottica River near Moengo, virgin forest. Small liane. Fruit red. August 10th.

First record for Surinam.

Distribution: French Guiana, Porto Rico.

*Isertia coccinea* (Aubl.) Gmel. Fl. p. 149.

1328. Suriname River near Kabelstation, edge of forest. Flowers orange red. November 16th.

*Isertia parviflora* Vahl Fl. p. 152.

363. Forest Reserve Zanderij I. Calyx lobes pink, corolla white. July 31st.

856. Coppename River near Raleighfalls, forest. Flowers white. Tree 5—6 m high. September 16th.

*Coccocypselum guianense* (Aubl.) K. Sch. Fl. p. 157.

182. Forest Reserve Sectie O. July 22nd.

430. Weyneweg between Moengo tapoe and Albina, savannah forest. August 14th.

*Posoqueria longiflora* Aubl. Fl. p. 161.

821. Coppename River near Raleighfalls, side of Creek in the virgin forest. Flowers white. Small tree. September 13th.

*Randia formosa* (Jacq.) K. Sch. Fl. p. 166.

571. Marowijne River near Langamankondre, sandy shore forest. Flowers white. Fruit yellow with orange stripes. August 13th.

*Randia Ruiziana* D.C. Fl. p. 167.

520. Marowijne River near Arminafalls. Flowers white. Fruit light yellow with dark yellow stripes. August 12th.

*Genipa americana* L. Fl. p. 172.

711. Coppename River near Kaaimanstone on island. Petals white. Stamens brown black. September 7th.

961. Coppename River near Raleighfalls. September 25th.

1150. Suriname River near Kabelstation. Fruit brown. November 8th.

1234. Id. November 10th.

Vernacular names: Oeman Tapoeripa, Taparoepa.

*Duroia aquatica* (Aubl.) Brem. Fl. p. 179.

843. Coppename River near Raleighfalls, virgin forest. Fruit green. September 14th.

The description of the fruit in the flora is made from a dried specimen. The fresh fruit is smooth and much larger namely c. 11 cm high and c. 9 cm diam.

Vernacular name: Marmeldoosje.

*Duroia eriopila* L. f. Fl. p. 181.

1002. Coppename River near Raleighfalls, on island. Flowers white. Female. September 26th.

*Retiniphyllum Schomburgkii* (Bth.) Müll. Arg. Fl. p. 185.

1242. Savannah near Brownsweg. Petals white pink in the middle. Calyx sticky. November 11th.

*Guettarda grandiflora* Steud. Fl. p. 189.

219. Suriname R. plant. La Liberté, forest. July 24th.

Fruit ovoid, 18 mm long, 11 mm diam., purplish-black, velvety, three of the cavities of the pyrene occupied by seeds.

*Morinda citrifolia* L. Fl. p. 200.

581. Paramaribo near Agric. Experm. Station. Flowers white. August 24th.

*Chomelia tenuiflora* Bth. Fl. p. 190.

994. Coppename River near Raleighfalls. September 26th.

*Faramea longifolia* Bth. Fl. p. 203.

975. Coppename River near Raleighfalls, on island. September 25th.

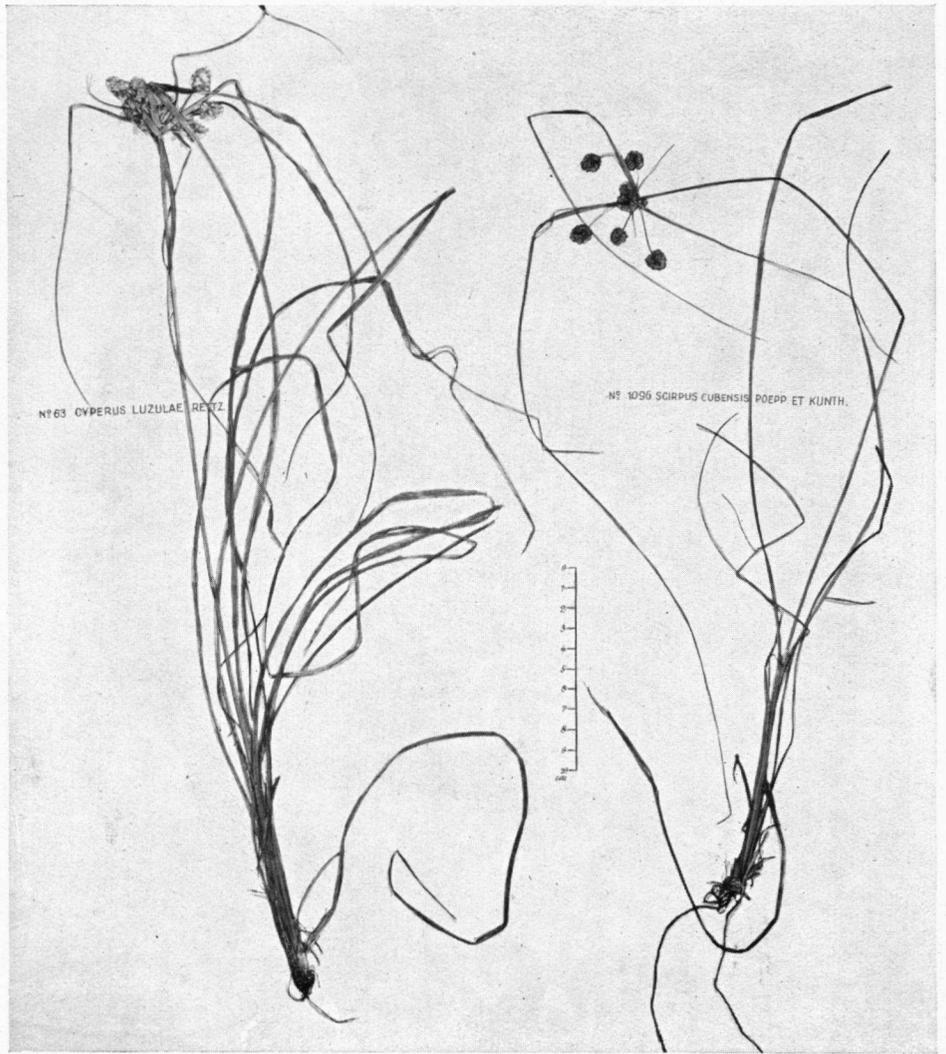
Fruit green, depressed globose, 4 mm high, 6 mm diam., eight ribbed, one-seeded. Seed farinose, depressed globose, with a vertical annular impression a second vertical impression perpendicular to the first extending to the equator.

*Coussarea paniculata* (Vahl) Standl. Fl. p. 213.

361. Forest reserve Zanderij I. July 31st.

- Palicourea guianensis* Aubl. var. *tetramera* Brem. Fl. p. 215.  
 946. Voltzberg, virgin forest. Tree 15—20 m high. September 21st.
- Palicourea longiflora* (Aubl.) A. Rich. Fl. p. 219.  
 308. Forest Reserve Zanderij I. Corolla orange, lobes lilac. July 29th.
- Palicourea crocea* (Sw. D.C. Fl. p. 220.  
 1115. Coronie, swamp forest. Flowers orange red. Tree 5—6 m high. October 23rd.
- Naletonia violacea* (Aubl.) Brem. Fl. p. 222.  
 312. Forest Reserve Zanderij I. July 29th.  
 351. Id. July 31st.
- Mapouria Fockeana* (Miq.) Brem. Fl. p. 226.  
 95. Charlesburg near Paramaribo, under trees. July 21st.
- Mapouria opaca* Brem. Fl. p. 229.  
 848. Coppename River near Raleighfalls, forest. Flowers white. Fruit a red berry. Shrub 3 m high. September 16th.
- Cephaëlis violacea* (Aubl.) Sw. Fl. p. 251.  
 471. Cottica River near Moengo, virgin forest. Flowers white. Bracts purple. August 16th.
- Cephaëlis pubescens* Hoffmanns. Fl. p. 256.  
 352. Forest Reserve Zanderij I. Flowers yellow. Bracts red. July 31st.
- Cephaëlis glabrescens* (Müll. Arg.) Standley Fl. p. 257.  
 789. Coppename River near Raleighfalls, forest. Bracts red. Fruit blue. September 11th.
- Psychotria cuspidata* Bredem. Fl. p. 269.  
 470. Cottica River near Moengo, virgin forest. Peduncle purple. Fruit white. August 16th.
- Psychotria Pullei* Brem. Fl. p. 271.  
 771. Coppename River near Raleighfalls, forest. Flowers purple. September 11th.  
 851. Id. Flowers white, shortstyled. Small shrub 20 cm high. September 16th.
- Perhaps a variety. The white colour of the flowers distinguishes it from the other specimens.
- Rudgea Hostmanniana* Bth. Fl. p. 276.  
 814. Coppename River near Raleighfalls, virgin forest. Fruit orange red. September 13th.
- Rudgea cornigera* Brem. Fl. p. 277.  
 353. Forest Reserve Zanderij I. Fruit a red berry. July 31st.
- Diodia hyssopifolia* (H.B.K.) C. et S. Fl. p. 282.

Tab. II.



Tab. II. *Cyperus luzulae* Retz (Lanjouw 63) and *Scirpus cubensis* Poepp. et Kunth (Lanjouw 1096).

426. Weyneweg between Albina and Moengo tapoe, savannah forest. Flowers white. August 14th.
1183. Suriname River near Kabelstation. November 9th.
- Borreria ocimoides** (Burm.) D.C. Fl. p. 285.
1139. Coronie, sandy road-side. Flowers white. October 24th.
- Borreria verticillata** (L.) G. F. W. Mey. Fl. p. 287.
1205. Suriname River near Kabelstation. Flowers white. November 9th.
- Borreria laevis** (Lam.) Griseb. Fl. p. 289.
778. Coppename River near Raleighfalls, in open space in the forest. Flowers light violet. September 11th.
- Borreria latifolia** (Aubl.) K. Schum. Fl. p. 291.
318. Forest Reserve Zanderij I, Flowers white. July 30th.
514. Marowijne River near Albina. August 11th.
93. In the Flora quoted under this name is in reality the var. *Fockeana* Brem.
- Mitracarpus discolor** Miq. Fl. p. 293.
563. Marowijne River near Langamankondre, sandy beach. Flowers pinkish-white. August 13th.
- Pagamea guianensis** Aubl. Fl. p. 295.
1240. Savannah near Brownsweg. Bud green. Small tree. November 11th.
- Perama hirsuta** Aubl. Fl. p. 297.
435. Weyneweg, between Albina and Moengo tapoe, savannah forest. August 14th.
1271. Savannah near Brownsweg. November 13th.
- Perama hirsuta** Aubl. var. *tetramera* Brem. Fl. p. 298.
372. Sandy wet savannah near Sectie O. August 2nd.

#### CAMPANULACEAE

See L a n j o u w in Fl. of Surinam Vol. IV. 2. (1934) pp. 302—305.

- Centropogon surinamensis** (L.) Presl. Fl. p. 303.
227. Lower Suriname River, plant. La Liberté, edge of forest. Flowers red. July 24th.
404. Cottica River near Moengo, edge of forest. August 9th.