











# THE FLORA OF CURAÇAO, ARUBA AND BONAIRE

BY

*1904*  
I. BOLDINGH,  
Phil. Nat. Dr.

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BOEKHANDEL EN DRUKKERIJ  
voorheen  
E. J. BRILL — LEIDEN  
1914.







**THE FLORA OF THE DUTCH WEST  
INDIAN ISLANDS.**

**II. The Flora of Curaçao, Aruba and  
Bonaire.**

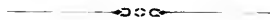
THE FLORA OF THE DUTCH  
WEST INDIAN ISLANDS.

SECOND VOLUME  
Curaçao, Aruba and Bonaire

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Published by the aid of „Het Provinciaal Utrechtsch Genootschap  
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## PREFACE.

In continuation of his voyage to the Dutch West Indian Islands St. Eustatius, Saba and St. Martin, about which particulars are to be found in the first part of the Flora of the West Indian Islands<sup>1)</sup>, the author undertook a second voyage in 1909—1910 in order to study the flora of the Islands Curaçao, Aruba and Bonaire.

It was again on the suggestion of Dr. F. A. F. C. Went, Professor of Botany in Utrecht University, that this voyage was undertaken and it is principally owing to his exertions that the following corporations gave financial support: de Maatschappij ter bevordering van het Natuurkundig onderzoek der Nederlandsche koloniën (Society for promoting the Physical investigation of the Dutch colonies), de Koninklijke Academie van Wetenschappen te Amsterdam (Royal Society at Amsterdam) which put the P. W. Korthals fund at my disposal, the Committee for the F. W. van Eeden fund, het Koninklijk Nederlandsch Aardrijkskundig Genootschap (Royal Dutch Geographical Society), het Nederlandsch Natuur- en Geneeskundig Congres (the Dutch Physical and Medical Congress) and het Provinciaal Utrechtsch Genootschap van Kunsten en Wetenschappen (Provincial Utrecht Society of Arts and Sciences); also the Botanical laboratory contributed towards the expense of transporting the plant collections in exchange for which it received the collections. To all these corporations I wish to express here my sincere thanks. Het Provinciaal Utrechtsch Genootschap van Kunsten en Wetenschappen again subsidized in order to have this flora printed.

Besides to the corporations mentioned the author is greatly indebted to Prof. Dr. F. A. F. C. Went and to his Excellency the Colonial Minister for his recommendation to the Governor of Curaçao.

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<sup>1)</sup> I. Boldingh. The Flora of the Dutch West Indian Islands. First Volume. St. Eustatius, Saba and St. Martin. Brill, Leyden, 1909.

He further has to thank all who during his voyage occupied the posts of Governor of Curaçao and Commander of the Islands Aruba and Bonaire, namely:

the Governors of Curaçao: Jhr. J. O. de Jong van Beek en Donk and Th. J. A. Nuyens LL. D., the Commanders of Aruba: Mr. H. J. Beaujon and of Bonaire: Mr. A. E. J. van den Brandhof and the Hon. District Masters of Curaçao: Mr. A. Thiele, Mr. J. J. Beaujon, of Bonaire: Mr. J. L. J. C. Cadières. Moreover the Rev. Termaat, Apostolic Vicar at Curaçao has been so kind to recommend me to the Rev. R. C. Clergy in the Colony of Curaçao.

I especially appreciate the very helpful assistance and information received before starting on my journey from Prof. J. Boeke, Dr. P. J. van Breemen at Curaçao, Mr. W. Versluys at Curaçao, Pastor P. A. Euwens at Bonaire and Mr. J. H. J. Hamelberg.

In the Colony Surinam, where I stayed a fortnight on my outward voyage I received the kindest help, for which I have to thank His Excellency the Governor of Surinam, D. Fock LL. D. and Dr. C. J. J. van Hall.

While the other officials of the Agricultural Department often assisted me, I wish specially to mention Mr. J. B. Wigmann, director of the Government Garden.

During my stay on land in British Guyana and Venezuela I also received highly valued help, in Br. Guyana from Dr. Stockdale.

I now want to mention the names of all those who made these short stays pleasant and comfortable for me. In the first place I am thinking of Mr. A. R. Nyboer, commander with the Dutch Royal West Indian Mail who had given me introductions to the Hon. Agents of this society in their various stations and who had also introduced me to Mr. A. Stadius Muller and Mr. H. J. Cohen Henriquez at Curaçao, who did so much afterwards to render my stay there pleasant. I further mention more particularly Messrs. de Brot, Perret and de Veer in the coast places of Venezuela.

Messrs. G. D. Nieman and N. H. C. van Baaren, commanders with the Dutch Royal W. Ind. Mail also made my voyage along Venezuela pleasant in various ways.

On Oct. 16 I arrived at Curaçao where I was at once hospitably received by Dr. P. J. van Breemen, whom I wish specially to thank here. The Government Agriculturist Mr. W. Versluys gave me immediately all the information I wanted.

I have great pleasure in mentioning the names of all those who assisted my either by offering hospitality or as guides and so

made my investigation easy. These are: Messrs. C. C. B. Gorsira of Malpais, Pastor Hendriks of Westpunt, H. van der Linde Schotborgh of Savonet, Joubert of Wacao and Barber, A. Stadius Muller of Siberie, I. van Lier of Hato, H. H. R. Chapman of Valentyn, A. Land of Klein-Davelaar, Ch. Debrot of Choloma, J. H. Penha of Koraal Tabak, Henriquez of van Engelen, de Wind of Waterloo, Ph. de Haseth of Patrick, G. Heldewier Vignon of Knip, M. van Uytrecht of St. Kruis, C. S. Gorsira of Klein St. Martha, G. H. van der Linde Schotborgh of St. Jan.

On Dec. 20 I went to Aruba. Here I particularly mention Messrs. Ecurie and W. F. Peiliker, Pastor Th. van Sadelhoff, R. J. Beaujon jun., Pastor A. Ellis at St. Cruz, Beaujon of Belaski, Pastor G. Potter of Savaneta, de Veer of Seroe Colorado, C. de Veer of St. Nicolaas.

On Jan. 18 I departed to Curaçao, from where I left for Bonaire on Jan. 28. There I was from Jan. 30 to Febr. 14 the guest of Pastor P. A. Euwens at Rincon. I further mention here Mr. P. van Teeckelenburg who put his house at my disposal for the remainder of the time I spent on Bonaire.

On Febr. 20 I went to Curaçao and returned to Holland on Febr. 27. On Bonaire I received valuable help from Mr. Abelgaardo Eleonora, fusilier of the Infantry Corps of Curaçao, whom Captain van Hombracht had given me as guide.

Data about the vernacular names and the medicinal use of plants were chiefly furnished by Messrs. G. R. van Dussel, Dr. P. de Haseth Möller, F. J. C. Beaujon, J. L. J. C. Cadières, de Wind, A. Hermus, H. J. Cohen Henriquez, Th. van Sadelhoff and P. A. Euwens. Mr. Duyfjes gave me much informations about the geology of the islands.

In the elaboration of the collected plants I was helped by Prof. I. Urban who gave a number of indications for forms not directly known to me, while Dr. F. Niedenzu, Dr. L. Radlkofer and Mr. O. E. Schulz named a number of the Malpighiaceae, Sapindaceae and Solanaceae. Dr. H. Hallier determined by far the greater part of the Convolvulaceae. Prof. W. Trelease determined the Agave species and Dr. A. S. Hitchcock some Gramineae.

To the Director of the State Herbarium at Leyden I am indebted for the loan of the plants of the Suringar collection.

I have particularly to thank Prof. N. L. Britton who sent me the plants collected by himself in Curaçao to work out and with whom I had

an extensive correspondence on forms that were difficult to determine. Thanks to his communications and assistance with the determinations a number of plants have now been named with greater certainty, than would have been possible without his valuable help which was especially necessary with the Cactaceae.

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This Flora is divided in Three Parts; whereas the different Parts, Sections and Chapters need no further explanation, a short account of the methods I followed in nomenclature, synonymy and distribution of plants is given here.

The enumeration of Families and Genera is very nearly given after the order of De Dalle Torre et Harms: Genera siphonogamarum ad systema Englerianum Conscripta (1908).

In a few cases I thought it better to follow:

Urban: Symbolae Antillanae and Urban: Additamenta ad Cognitionem Florae Indiae Occidentalis 1892—97.

The names of the species used are mostly drawn from these two papers and Engler und Prantl.: Die natürlichen Pflanzenfamilien up to 1914, Engler: Regnum Vegetabile up to 1914, or from other monographs.

Whenever I could not find any name in the above mentioned publications I took the name I thought best after the International rules for Botanical Nomenclature chiefly of Vascular Plants. Wien 1905. (Verh. Int. Bot. Congr. 1805 Wien.).

Besides the names thus given I also mention the synonyms that are used in: Grisebach: Flora of the British West Indian Islands, and in a very few cases still another one.

I tried to arrive at the greatest completeness possible in giving the data about the names thus used, and I also mentioned the pages where the plants occur in: Grisebach: Flora of the British West Indian Islands.

To every plant is added the name of the Dutch West Indian Windward Island where it is found in this order: Curaçao, Aruba, Bonaire.

I have mentioned as much as I could find about the distribution of the plants in all parts of the world, and these data are taken from the following publications in this order:

Urban: Symbolae Antillanae, and Additamenta ad Cognitionem

Florae Indiae Occidentalis (1892—97), Engler: Regnum vegetabile and Engler und Prantl: Die Natürlichen Pflanzenfamilien, newer Monographs and Jackson: Index Kewensis.

For the abbreviated names see under Literature.

Whenever I could not find that a plant was known in other parts of the world besides the Antilles, then the names of all the Islands where it is found are enumerated; I have added the name „Margarita” to the plants occurring in the flora of the Islands of Margarita and Coche by Johnston.

The Systematic Part consists of the plants belonging to all the collections mentioned in Chap. 11, p. 116.

The plants collected in the different islands are thus given: collection Boldingh in the order of the day of collecting, and the names of the other collectors are given in chronological order. Not all the vernacular names people told me are given here, but the names I have given in this Flora are used without any doubt. Whenever a plant struck my attention although I did not think it necessary to collect it, I made some notes about it; these notes are also to be found in this Flora, printed with small type.

As to the flowering and fruiting time of the plants I did not think it necessary to mention with every plant whether I collected flowers or fruits as the greater part of the plants have been collected with flowers.

I wish to draw attention to the fact that I have tried to render also this Flora of the Dutch West Indian Islands as complete as possible, both by what my own investigations have taught me and what I could find elsewhere.

Only the genus *Melocactus* has not been studied with the same care, as I was sure I could not add anything to the work done by Suringar on this head by the data I could bring together without giving too much time to it. So I refer to the studies of F. W. R. Suringar on *Melocactus* and those of J. Valckenier Suringar.

Botanical Laboratory of the University  
in Utrecht.

1913.

## Additions.

The plant mentioned on pg. 3 as *Andropogon brevifolius* Sw. has been studied by Mr. V. Nash, who gave it the name of *Schizachyrium curasavicum* sp. nov.

Annual. Stems 1—2 dm. tall, branched, glabrous; leaf-sheaths smooth and glabrous, keeled; blades up to 8 cm. long, 3—4 mm. wide, flat, linear, gradually narrowed above to an acute point, glabrous on the keeled lower surface, the upper surface sparingly tuberculate-hirsute with long hairs; spathes 2—3 cm. long; racemes about 2 cm. long, the internodes oblique at the deeply cup-shaped apex, these and the pedicels appressed-hirsute with long hairs below on the back, the internodes long barbate at the base; sessile spikelets 5—6 mm. long; first scale involute, appressed-hirsute with long hairs, long-acuminate, strongly 2-nerved at the apex, these nerves and the intermediate ones very faint below; flowering scale hyaline, delicate, cleft to below the middle, the awn 8—12 mm. long, the tightly spiral deep brown column about as long as the yellowish subula; pedicellate spikelet about 1.5 mm. long, with a scabrous awn about 3 mm. long.

Rocky hill, St. Joris Bay, Curaçao, Britton & Shafer, March 20—27, 1913, No. 3101.

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**FIRST PART**

**SYSTEMATICAL**



## Pteridophyta.

### Polypodiaceae.

68. **Doryopteris** J. Smith.

**Doryopteris concolor** Kuhn, v. Deck. Reis. 3<sup>3</sup>. Bot. (1879) 19.

**Bonaire:** Brh (7319); Brh (7321).

In tropical countries of both hem. (C. Christensen).

72. **Cheilanthes** Swartz.

**Cheilanthes microphylla** Sw. Syn. Fil. (1806) 127; Gris. Fl. 667.

**Curaçao:** Heh (5647). — Britton & Shafer.

**Bonaire:** Rk (7049); Rk (7053); Zkr (7387).

Antill., Amer. cont. trop. (Symb.).

100. **Polypodium** Linn.

**Polypodium aureum** Linn. Spec. (1753) 1087; Gris. Fl. 698.

**Curaçao:** C (5012); C (5020). — Suringar.

Baham., Antill., Amer. cont. trop. (Symb.).

## Monocotyledoneae.

### 9. Typhaceae.

49. **Typha** Linn.

**Typha domingensis** Pers. Synops. II (1807) 532.

*Typha angustifolia*  $\beta$  *domingensis* Griseb. Fl. Br. W. I. Isl. (1864) 512.

**Curaçao:** Kr (5586).

Antill., Americ. cont. (Graebner 1900).

## II. Potamogetonaceae.

### 59. *Ruppia* Linn.

***Ruppia maritima*** Linn. Spec. I (1753) 127; Gris. Fl. 506.

**Curaçao:** Hawt (5348a). — Britton & Shafer 2952.

**Aruba:** Font (6440).

**Bonaire:** Plh (7288); Plh (7290).

Trop. and temp. zones. (Symb.).

### 60. *Cymodocea* Ch. Koenig.

***Cymodocea manatorum*** Aschers. in Sitsber. Ges. naturf. Fr. Berlin (1868) 19.

**Curaçao:** Britton & Shafer 3128.

Bermud., Key West, Antill. (Symb.).

## 12. Najadaceae.

### 64. *Najas* L.

***Najas guadalupensis*** Morong. in Mem. Torr. bot. Club III. 2 (1893) p. 60. t. 67;

*Najas microdon* A. Br. var. *curassavica* A. Br. in Sitzungsber. ges. naturforsch. Freunde Berlin (1868) 17.

**Curaçao:** Britton & Shafer 3083.

Cuba, Florida, Mexico, Venezuela. (Symb.).

## 15. Alismaceae.

### 75. *Echinodorus* Engelm.

***Echinodorus cordifolius*** Gris. Kar. (1857) 109; Gris. Fl. 505;

*Echinodorus rostratus* Engelm. in Gray Man. of Bot. II. ed. (1856) 438; Buch. in Eng. Pflanzenr. Heft 17 (Alismataceae) 31.

**Curaçao:** Md (4893); Malpais. — Britton & Shafer 3115.

Baham., Antill., Amer. sept. (Symb.).

## 17. Hydrocharitaceae.

### 85. *Halophila* Thou.

***Halophila Baillonis*** Aschers. Journ. Linn. Soc. XIV (1874) 317.

**Curaçao:** v. Breemen: Spaansche water near Brakkeput.

St. Thomas, Guadeloupe, Martinique. (Symb.).

92. **Thalassia** Banks.

**Thalassia testudinum** Sol. in König. Ann. of Bot. 11 (1805) 96;  
Gris Fl. 507. Jeerba die kaania.

**Curaçao:** v. Breemen. — Britton & Shafer 3094.  
Key West, Baham., Antill., Venezuela. (Symb.).

19. **Gramineae.**102. **Zea** Linn.

**Zea Mays** Linn. Spec. (1753) 971. Maisji grandi.  
Cultivated. [Amer. austr. Peru?] (Symb.).

111. **Saccharum** Linn.

**Saccharum officinarum** Linn. Spec. (1753) 54. Kanja.  
Cultivated. [Asia austro-orient.?] (Symb.).

134. **Andropogon** Linn.

**Andropogon brevifolius** Sw. Prodr. (1788) 26; Gris. Fl. 558.

**Curaçao:** Britton & Shafer 3101.

Trop. countries of both hemisph. (Symb.).

**Andropogon contortus** Linn. Sp. (1753) 1045.

*Andropogon secundus* Willd. ex Nees Agrost. Bras. (1829) 346.  
Gris. Fl. 558.

**Curaçao:** Caz (4784); Zt (5382).

St. Eustatius. (Bold. I); Domingo, Haiti, Antigua, Guadeloupe.  
(Herb. Krug et Urban).

**Andropogon Ischaemum** Linn. Spec. I. p. 1047. var. **americanus**  
in Hack. D C. Mon. Ph. VI. 476.

**Curaçao:** Vd (4742); Bh (4762).

Venezuela, Antigua. (Hack. D C. Mon. Ph. VI).

**Andropogon Schoenanthus** Linn. Spec. (1753) 1046. Jeerba  
die lamoen, Lemoengras, Malohie.

Cultivated. [Ind. Orient. Afr. trop. Asia.] (Hack. D C. Mon.  
Ph. VI).

**Andropogon sorghum** Brot. Flor. Lusit. I (1804) 88. Maisji  
raboe, Maisji sjeete simàn, Maisji sjikietoc.

Cultivated.

var.  $\approx$  **halepensis** Hack. D C. Mon. Ph. VI (1889) 502.  
Johnsongras.

Cultivated. [Trop. et temper. zones.] (Hack. D C. Mon. Ph. VI).

140. **Anthephora** Schreb.

**Anthephora hermaphoditica** O. Ktze. Rev. II (1891) 759;  
*Anthephora elegans* Schreb. Besch. Gräs. III (1810) 105 t. 44;  
 Gris. Fl. 556.

**Curaçao:** Vw (4713); W (4926*b*); Hk (5320); Kit (5500); Huk (5569). — Suringar, — Lens 828, — Versluys 1412, — Britton & Shafer 2918.

**Aruba:** Mankz (6278); Siw (6329). — Suringar.

**Bonaire:** R (7025*e*); Rk (7095*a*); Rt (7154); Rt (7159); Krak (7445).

Of general occurrence; 30 finding places noted.

Margarita. (Johnston).

Antill., Amer. cont. trop. (Symb.).

143. **Tragus** Hall.

**Tragus racemosus** Haller Hist. Stirp. Helv. II (1768) 203;

**Lappago aliena** Spreng. Neue Entd. III (1822) 15; Gris Fl. 557.

**Curaçao:** Cas (4790); W<sub>2</sub> (5065); Vat (5372). — Suringar, — Britton & Shafer 2960.

**Aruba:** Ok<sub>2</sub> (6236); Siv (6313*a*). — Suringar.

**Bonaire:** R (7025*b*); R (7380).

Pretty scarce; of the 18 finding places only 5 were noted on lime.

Margarita. (Johnston).

Antill., trop. and subtrop. countries of both hemisph. (Symb.).

161. **Paspalum** Linn.

**Paspalum glabrum** Poir. in Lam. Encycl. V (1804) 30.

**Curaçao:** Bh (4765); Cas (4785); Mok (4821); Mk (4889); Ms (4896); H<sub>2</sub> (5110*b*); Hz (5134); Pek (5282); Pez (5292); Pih (5326); Vat (5367); Kk (5404); Be (5555). — Britton & Shafer 3027.

**Aruba:** Mand (6292); Camk (6372); Nick (6495*a*).

**Bonaire:** Rk (7046); Tolzk (7279); Bolko (7370).

Occurring scattered on Curaçao, not on lime soil, especially in courts; 23 finding places noted; rarely seen on Aruba and Bonaire.

Baham., Antill., Guiana. (Symb.).

166. **Panicum** Linn.

**Panicum colonum** Linn. Syst. X. ed. II (1759) 870; Gris. Fl. 545.

**Curaçao:** St (5054*g*); Vat (5349); Zt (5380); Ent (5433); Ent (5434); Jt (5423*a*). — Suringar, — Versluys 1407.

Antill., trop. and warmer countries of both hemisph. (Symb.).



**Panicum distantiflorum** A. Rich. Fl. Cub. Fanerog. II 304.

**Curaçao:** Britton & Shafer 3088.

Cuba. (Hitchcock 1909).

**Panicum geminatum** Forsk. Flor. Aeg. Arab. (1775) 18;

*Panicum paspaloides* Pers. Syn. I (1805) 81; Gris. Fl. 545.

**Curaçao:** Mt (4868); St (4963); St (5054*m*); Mrt.

**Aruba:** Bakk (6342*a*). — Suringar.

Florida, Bermud., Baham., Antill., trop. countries of both hemisph. (excl. Australia). (Symb.).

**Panicum hirticaule** Presl. in Rel. Haenk. I. 308.

**Curaçao:** Vat (5094); Hk (5322); Zt (5379); Jt (5423).

Mexico. (Hitchc.).

**Panicum insulare** G. F. W. Mey. Prim. Esseq. (1818) 60.

*Tricholaena insularis* Gris. Fl. W. I. (1864) 557.

**Curaçao:** W (4927*g*); Hh (5131*h*); Hh (5131*g*); Krh (5600); W (4929); Huk (5569).

**Aruba:** Beaujon.

**Bonaire:** Bolko (7362).

Margarita. (Johnston).

Florida austr., Baham., Amer. cont. from Texas to Patagonia. (Symb.).

**Panicum lachnanthum** Torr. Pac. Rail. Rep. VII. 3. 21.

*Valota saccharata* A. Chase in Proc. Biol. Soc. Washington XIX (1906) 188.

**Aruba:** Serk (6483). — Suringar.

**Bonaire:** Joh (7209).

Western parts of North. America. (Ind. Kew.).

**Panicum maximum** Jacq. Ic. pl. rar. I (1781) z. t. 13; cult. Gris.

Fl. 549. Guini gras.

Cultivated. [Baham., Antill., Amer. cont. trop., Afr. trop. and subtrop.] (Symb.).

**Panicum molle** Sw. Prodr. (1788) 2; Gris. Fl. 547. Paragras.

Cultivated. [Baham., Antill., Amer. cont. trop.] (Symb.).

**Panicum reptans** L. Syst. X. ed. II (1759) 870;

*Panicum prostratum* Lam. Ill. III. 1 (1791) 171; Gris. Fl. 546.

**Curaçao:** St (5054*s*); Jt (5423*b*). — Aschenberg, — Suringar, — Versluys 1414, — Britton & Shafer 2987, 3002, 3145.

Margarita. (Johnston).

Antill., trop. countries of both hemisph. (Symb.).

**Panicum sanguinale** Linn. Spec. (1753) 57;

*Digitaria marginata* Lk. Enum. I (1821) 102 et *Digitaria setigera* Roth. ap. R. et Sch. Syst. II (1817) 474?; Gris. Fl. 544. Piea die galiinja sjimarón.

**Curaçao:** St (5054*k*); Zt (5383*a*); Ent (5433*b*). — Versluys 1413.

**Aruba:** Font t (6475*a*). — Suringar.

Margarita. (Johnston).

Antill., trop. countries of both hemisph. (Symb.).

**Panicum stenodes** Gris. Fl. W. I. (1864) 547.

**Curaçao:** Rih (4654); Vd (4737); Ms (4897); H<sub>2</sub> (5110).

**Bonaire:** Rk (7070); Soebh (7261*a*); Soebh (7272); Bonk (7485). — Suringar.

Jamaica, Cuba, Brasil. (Gris. Fl. W. I.).

**Panicum velutinsum** Nees. Agrost. bras. 121.

Maisji totalieka.

**Curaçao:** Mok (4819); W (4927*f*); St (5054*e*); Aw (5163); Bah (5169); Bat (5232*b*); Be (5398); Jh (5428); Jh (5428*b*); Krh (5597). — Aschenberg, — Suringar, — Versluys 1401, 1404, 1405, — Britton & Shafer 2986, 3004.

**Aruba:** How (6362).

**Bonaire:** R (7095*b*); R (7384). — Suringar.

Brasil., Mexico. (Steud. Plant. Glum.).

#### 171. **Setaria** Beauv.

**Setaria setosa** Beauv. Agrost. (1812) 51; Gris. Fl. 555.

**Curaçao:** C (4995).

Antill., Amer. cont. trop. (Symb.).

#### 174. **Cenchrus** Linn.

**Cenchrus echinatus** Linn. Spec. I. ed. II (1753) 1050; Gris. Fl. 556. Peega saaja mohee.

**Curaçao:** Vat (5091); Vat (5374). — Suringar, — Lens 834, — Versluys 1408, — Britton & Shafer 3156.

**Aruba:** Mankz (6278*a*); Siw (6324). — Koolwijk.

**Bonaire:** Bolko (7374).

Margarita. (Johnston).

Antill., all tropical countries. (Symb.).

**Cenchrus carolinianus** Walt. in Flora Caroliniana (1788). Peega saaja boobo.

**Curaçao:** W (4927*c*); St (5054*f*); Vat (5375); Zt (5380); Zt (5382*b*); Jh (5428*a*); Ent (5433*a*). — Aschenberg, — Versluys 1409, — Britton & Shafer 2916.

**Aruba:** Siw (6325); Savk (6523). — Koolwijk.

**Bonaire:** Rt (7155). — Suringar.

Bermud., Baham., Antill., Amer. cont. trop. (Symb.).

### 195. *Bouteloua* Lag.

***Bouteloua aristidoides*** Gris. Fl. Br. W. I. 537.

**Aruba:** Ajw (6344); Andh (6395); Mirh (6455). — Suringar.

Arizona. (Herb. Utrecht); Mexico. (Hitche.).

***Bouteloua Humboldtiana*** Gris. Pl. Wright II (1862) 532;

*Heterostega juncifolia* H. B. K. Nov. Gen. I (1815) p. 175 t. 54.

**Curaçao:** Bh (4769); W<sub>2</sub> (5067); Sik<sub>3</sub> (5262c); Pih (5327).

**Aruba:** Mankz (6297); Altavista (6340). — Suringar.

On Curaçao 6 finding places of which one on lime soil; on Aruba scattered, 7 finding places; on Bonaire not found at all.

Portorico, Cuba, Hispaniola. (Symb.).

### 208. *Aristida* Linn.

***Aristida Swartziana*** Steud. Syn. Pl. Gram. (1855) 137;

*Aristida purpurascens* Poir. Encycl. Supp. 1.452; Gris. Fl. 534.

**Curaçao:** Bh (4763); Bh (4772); Cas (4782); Cas (4783); Mah (4852a); W (4927a); H (5069); Wa<sub>3</sub> (5103a); Hk (5131m); Si k<sub>2</sub> (5264); Hk (5319); Pi k (5327a); Zt (5381); Zt (5383b); Huk (5569a). — Suringar, — Britton & Shafer 2958.

**Aruba:** Ok<sub>2</sub> (6235); Bakh (6333).

**Bonaire:** R (7009); Macb (7120); Lash (7227); PRw (7355); Bol ko (7366); Krak (7443a); Bact (7473c). — Suringar.

Over a hundred finding places noted.

Jamaica. (Steud. Pl. Gram.); St. Eustatius, Saba, St. Martin. (Bold. I).

### 230. *Sporobolus* R. Br.

***Sporobolus argutus***, Kth. Enum. I (1833). 215. Brakgras, Jeerba fieni.

**Curaçao:** Rud (4608); Vw (4717); Blw (4754); B (4779); Mok (4825); Pit (4835); Mt (4862); W (4927); Sk (5044); Hk (5131b); Bat (5210); Bat (5230); Vat (5365a); Ent (5433d). — Aschenberg, — Suringar, — Versluys 1415, — Britton & Shafer 3051.

**Aruba:** Mankz (6280); Bushir (6342); Bek (6424). — Suringar, — Koolwijk.

**Bonaire:** R (7025a); R (7025c); R (7091); R (7183a); Kra k (7443c); Lac k (7477). — Suringar.

Noted in 82 finding places.

Brasilia. (Kunth. Enum.) (Symb.).

282. **Cynodon** Pers.

**Cynodon dactylon** Pers. Syn. I (1805) 85; Gris. Fl. 540. Brakgras saaloe.

**Curaçao**: Suringar, — Versluys 1417.

Bermud., Baham., Antill., trop. and warmer countries of both hemisph. (Symb.).

288. **Chloris** Sw.

**Chloris leptantha** Hitchc. in Symb. Antill. VII (1912) 166.

**Curaçao**: H<sub>2</sub> (5115); Beh (5531); Dh (5636); Be (5556); Huk (5569); Krk (5591*b*). — Britton & Shafer 2906.

**Aruba**: Siw (6322); Ok<sub>2</sub> (6233); How (6360); Bek (6421*a*); Beh (6428 *h*); Mirh (6445*a*); Savw (6520); Savh (6535*a*).

**Bonaire**: R (7031); Joh (7208); Krak (7444).

**Chloris paraguayensis** Steud. Gram. (1855) 204;

*Chloris barbata* Sw. Flor. I (1797) 200; Gris. Fl. 549.

**Curaçao**: Sik (5188); Bat (5232*c*); Zt (5383). — Suringar, — Lens 829, — Versluys 1410, — Britton & Shafer 2989.

**Aruba**: Siw (6305).

**Bonaire**: Rt (7152); Bact (7473).

Noted in 17 finding places; Scarce.

Baham., Antill., trop. countries of both hemisph. (Symb.).

**Chloris Suringari** Hitchc. in Symb. Antill. VII (1912) 167.

**Curaçao**: Mk (4888); Mk (4895); Sik (5187); Pek (5281).

304. **Eleusine** Gärtn.

**Eleusine indica** Gärtn. Fruct. I (1788) 8; Gris. Fl. 540. Kamo esji, Piea die galiinja.

**Curaçao**: Cas (4807); St (5041*i*). — Aschenberg, — Suringar, — Went 1099, — Versluys 1406.

**Bonaire**: Suringar.

Baham., Antill., trop. and warmer countries of both hemisph. (Symb.).

305. **Dactyloctenium** Willd.

**Dactyloctenium aegyptium** Willd. Enum. Hort. Berol. (1809) 1029; Gris. Fl. 540;

*Eleusine aegyptiaca* Desf. Flor. atl. I (1798) 85.

Bosopaata, Haabriman, Maria bo kee beendeemi, Piea waarawaara.

**Curaçao**: W (4926*c*); St (5054*a*); Bat (5232*d*); Huk (5569*d*);

Krk (5591). — Aschenberg, — Suringar, — Went 1102, — Lens 811, — Versluys 1403.

**Aruba:** Ok<sub>2</sub> (6231); Siw (6331); Siw (7342*d*). — Suringar.

**Bonaire:** R (7025*d*); R (7059); Rt (7151); Krak (7443); Krak (7444*a*). — Suringar.

Of general occurrence in the three islands.

Margarita. (Johnston).

Baham., Antill., trop. and warmer countries of both hemisph. (Symb.).

### 307. **Leptochloa** Beauv.

**Leptochloa filiformis** Beauv. Agrost. (1812) 71;

*Leptochloa mucronata* Kth. Rév. Gram. I (1829) 91; Gris. Fl. 537.

**Curaçao:** St (5054*v*); St (5054*h*); Wa<sub>3</sub> (5101*a*); A (5145); Bat (5232*a*); Ent (5433*c*). — Aschenberg, — Suringar, — Lens 830, — Versluys 1411, 1421.

**Bonaire:** Rh (7035).

Occurring scattered outside the lime on Curaçao and Bonaire.

Margarita. (Johnston).

Bermud., Antill., Amer. sept., Nova Granata, Asia and Afr. trop. (Symb.).

### 310. **Pappophorum** Schreb.

**Pappophorum alopecuroideum** Vahl. Symb. bot. III (1794) 10. t. 51; Gris Fl. 537.

**Bonaire:** Fh (7253); (7424); Skr (7438).

Trinidad, La Tinta, Bras. to Uruguay. (Gris. Fl.).

### 341. **Eragrostis** Host.

**Eragrostis ciliaris** Lk. Hort. Berol. I (1827) 192; Gris. Fl. 532.

**Curaçao:** Rif (4024*a*); Mt (4864); W (4927*e*); Wa<sub>3</sub> (5103*b*); Pe (5305); Beh (5529); Huk (5569*e*); Dh (5637). — Suringar, — Went 1097, — Britton & Shafer 2908, 3139.

**Aruba:** (6205); Siv (6334); Bakh (6336); Ajw (6343); Bek (6433*a*); Nick (6495*e*); Savw (6519*d*); Mansz (6555). — Suringar.

**Bonaire:** Rh (7036); R (7115*a*); R (7147); Soebh (7260); Soebh (7261); Brw (7314*a*); Krak (7443*b*); Zoutkg (7501*a*). — Suringar.

Generally spread; 40 finding places noted.

Margarita. (Johnston).

Baham., Antill., Amer. trop., Afr. trop., Ind. orient. (Symb.).

**Eragrostis diversiflora** Vasey in Contrib. U. S. Nat. Herb. I (1893) 285.

**Aruba:** Crr; Jabh (6275); Bakk (6342).

**Bonaire:** Zout kg (7501).

Mexico. (Ind. Kew.).

**Eragrostis pilosa** Beauv. Agrost. (1812) 71; Gris. Fl. 532.

**Curaçao:** Krk (5590). — Suringar.

**Aruba:** Suringar.

**Bonaire:** Bolko (7375); Bact (7473a).

Antill., warmer countries of both hemisph. (Symb.).

**Eragrostis Urbaniana** Hitchc. in Symb. Antill. VII (1912) 167.

**Curaçao:** Nask (4692); Pek (5285). — Suringar, — Britton & Shafer 2939, 3058.

**Aruba:** Mankz (6277); Nick (6495); Font k (6565).

**Bonaire:** Rk (7064); Grk (7170); Soebkr (7258); Tolzk (7277); Krak (7446). — Suringar.

Baham.: (South Caicos). (Symb.).

## 20. Cyperaceae.

**Cyperus elegans** Linn. Spec. (1762) 68;

*Cyperus viscosus* Swartz. Prod. (1788) 20; Gris. Fl. 563.

**Curaçao:** Suringar.

**Bonaire:** Suringar.

Florida, Antill., Amer. centr., Argentina. (Symb.).

✓ **Cyperus esculentus** Linn. Spec. ed. II. 67; Gris. Fl. 565.

Jeerba die kooko, Kooko die amiena.

**Curaçao:** Blw (4747); St (5054*v*).

**Aruba:** Bakk (6342); Ajw (6343*a*).

**Bonaire:** R (7131); R (7140); Rt (7148); Brw (7314); Tk (7333). — Suringar.

Southern parts of Europa, in Africa, Asia, Oceania and America in the warmer parts. (Symb.).

✓ **Cyperus articulatus** Linn. Spec. ed. I (1753) 44; Gris. Fl. 564. Oenkoe.

**Curaçao:** Mh (4869). — Aschenberg.

In warmer and tropical countries of both hemisph. (Symb.).

✓ **Cyperus compressus** Linn. Spec. Pl. ed. II 68; Gris. Fl. 562.

**Curaçao:** Kit (5487).

In all warmer countries of both hemisph. (Symb.).

- ✓ **Cyperus oligostachys** H. B. K. Nov. Gen. et Sp. I. 164.  
**Curaçao**: Kit (5540); Krk (5592). — Britton & Shafer 3095.  
**Aruba**: Savk (6523).  
**Bonaire**: R (7115); Montkr (7413); Bact (7473f).  
 N. Andalusia. (H. B. K. Nov. Gen. et Sp.).
- ✓ **Cyperus oxylepis** Nees in Linnæa IX (1834) 285.  
**Curaçao**: M<sub>2</sub>. — Britton & Shafer 2924.  
**Bonaire**: Karkz (7440).  
 Jamaica, Equador, Guiana. (Symb.).
- ✓ **Cyperus rotundus** Linn. Spec (1762) 67; Gris Fl. 564.  
**Curaçao**: Aschenberg, — Lens 822, — Versluys 1402, —  
 Britton & Shafer 3097.  
**Aruba**: Fontt (6475); Fontt (6475b).  
 Baham., Antill., warmer countries of both hemisph. (Symb.).
- ✓ **Cyperus uncinatus** Poir. in Lam. Encycl. VII (1806) 247;  
*Cyperus cuspidatus* H. B. K. Nov. Gen. et Sp. I (1815) 204.  
**Curaçao**: Krk (5590a).  
**Aruba**: Bek (6424c).  
**Bonaire**: Tolcz (7277c).  
 In all tropical and warmer countries. (Symb.).

459\*. **Mariscus** Gärtn.cf. 459. **Cyperus** Linn. sect. 6.

- Mariscus brizaes** C. B. Clarke in Symbolæ Antillanæ II (1900) 52.  
 Kamoe, Korta mán, Jeerba die koetsjôe.  
**Curaçao**: C (5004); Pez (5289); Be (5558). — Suringar.  
**Aruba**: Bakk (6342c). — Suringar.  
**Bonaire**: Grkz (7176); Skz (7435).  
 Baham., Antill., Florida. (Symb.).
- ✓ **Mariscus bruneus** C. B. Clarke in Symb. Antill. II (1900) 51;  
*Cyperus brunneus* Sw. Fl. Ind. Occid. I (1797) 116 partim;  
 Gris. Fl. 565.  
**Curaçao**: Britton & Shafer 2938.  
 Trop. America. (Symb.).
- ✓ **Mariscus confertus** Clarke in Symb. Antill. II (1900) 50;  
*Cyperus confertus* Sw. Prodr. (1788) 20; Gris. Fl. 563.  
**Curaçao**: Hk (5320); Kit (5505); W (4926). — Aschenberg, —  
 Went 1091, — Lens 812, — Versluys 1416, — Britton & Shafer  
 2907, 3028.

**Aruba**: Jabh (6272); Siv (6304); Suph (6392); Bek (6424); Serk (6483); Mansz (6557).

Antill., Columbia, Venezuela, Ins. Galapagos. (Symb.).

**Mariscus fuliginus** (Chapm.) C. B. Clarke in Symb. Antill. V (1907) 290;

*Cyperus fuliginus* Chapm. in Fl. S. U. St. 551. Jeerba maisji sjikietoe.

**Curaçao**: Rih (4656); Kk (5402); Jak (5640). — Suringar, — Britton & Shafer 2947.

**Bonaire**: Soebh (7259); Soebh (7261*b*); Skz (7439); Lack (7477*a*). — Suringar.

22 finding places in all; noted as spread, not on Aruba.

Amer. boreal. (Ind. Kew.).

**Mariscus gracilis** Vahl. Enum. II (1806) 372.

**Curaçao**: C (4996); H<sub>2</sub> (5109); Sih (5191); Kit (5504). — Suringar, — Britton & Shafer 2971.

**Bonaire**: Macb (7119); Tolzk (7277*b*); Fh (7255); Brh (7322); Bonk (7490). — Suringar.

Cuba, Jamaica, Hispaniola. (Symb.).

**Mariscus ligularis** Urb. Symb. Antill. II (1900) 165;

*Mariscus rufus* H. B. K. Nov. Gen. et Spec. I (1815) p. 216. t. 67; *Cyperus ligularis* Linn. Amoen. Acad. V (1759) 391; Gris. Fl. 566.

**Curaçao**: Britton & Shafer 3017.

Margarita. (Johnston).

In trop. countries of Africa and America. (Symb.).

**Mariscus planifolius** Urb. in Symb. Antill. II (1900) 165;

*Mariscus purpurascens* C. B. Clarke in Symb. Ant. II (1900) 51; *Cyperus bruneus* Gris. Flor. (1864) 565 p.p.

**Curaçao**: Suringar.

**Aruba**: Suringar.

**Bonaire**: Zoutz (7498). — Suringar.

Portorico, Antigua, Guadeloupe, Dominica, Martinique, St. Vincent, Grenada, Trinidad. (Symb.).

459\*\*. **Torulinium** Desv.

cf. 459. **Cyperus** sect. 5.

**Torulinium ferax** Urb. in Symb. Antill. II (1900) 165;

*Cyperus odoratus* Linn. Spec. I (1753) 46; Gris. Fl. 565.

**Curaçao**: Britton & Shafer 3114.

**Aruba**: (Symb.).

In all warmer countries of both hemisph. (Symb.).



- ✓ **Torulinium filiforme** C. B. Clarke in Symbolae Antillanae II (1900) 57;

*Cyperus filiformis* Swartz Prodr. (1788) 20; Gris. Fl. 565.

**Curaçao:** Wh (5573).

**Aruba:** Bek (6423).

Baham., Antill. (Symb.).

468. **Scirpus** Linn.

- ✓ **Scirpus micranthus** Vahl. Enum. II (1806) 254;

*Hemicarpha subsquarrosa* Nees in Mart. Fl. Bras. II pars I (1843) p. 61. t. 4 fig. 1; Gris. Fl. 372.

**Aruba:** Mankz (6279a); Ajw (6341); Ajw (6343); Savw (6519).

**Bonaire:** R (7139); Grkz (7174a); Tolkg (7277a); Brw (7314b).

Not seen on Curaçao; on Aruba and Bonaire together 16 finding places noted.

In all parts of America, Angola. (Symb.).

469. **Heleocharis** R. Br.

- ✓ **Heleocharis capitata** R.Br. Prod. (1810) 225;

*Scirpus capitatus* Linn. Spec. (1762) 70; Gris. Fl. 570 partim.

**Curaçao:** Mt (4867); Asc (5296); Krt (5584). — Aschenberg, — Britton & Shafer 3014, 3078.

Margarita. (Johnston).

Tropical and subtropical countries. (Symb.).

469\*. **Bulbostylis** Kunth.

cf. 469. **Heleocharis** R. Br.

- ✓ **Bulbostylis floccosa** var.  $\beta$  **pumillio** C. B. Clarke in Symbolae Antillanae V (1907) 290.

**Curaçao:** Sik<sub>3</sub> (5242); Hk (5315). — Suringar, — Britton & Shafer (2946).

**Bonaire:** Grk (7171); Plak (7260); Bon k (7488).

471. **Fimbristylis** Vahl.

- ✓ **Fimbristylis annua** R. et Sch. Syst. II (1817) 95;

*Fimbristylis diphylla* Vahl Enum. II (1806) 289;

*Fimbristylis brizoides* Nees in Linnaea IX (1834) 290; Gris. Fl. 572.

**Bonaire:** Zoutkg (7503).

In all warmer and tropical countries. (Symb.).

**Fimbristylis monostachya** Hassk. Pl. Jav. Rar. (1848) 61;  
*Cyperus monostachyus* Linn. Mant. (1771) 180; H. B. et K. Nov.  
 Gen. et Spec. I. 203;

*Abildgaardia monostachya* Vahl Enum. II (1806) 296; Gris.  
 Fl. 569.

**Curaçao**: Mah (4852); Mh (4883); Krh (5596).

**Bonaire**: Soebh (7280); Bolko (7367).

In all warmer and tropical countries. (Symb.).

**Fimbristylis ferruginea** Vahl Enum. II (1806) 291; *Scirpus ferru-  
 gineus* Linn. Spec. Ed. II 74; Gris. Fl. 572.

**Curaçao**: Asc (5293); Krt (5585). — Aschenberg, — Britton &  
 Shafer 3018.

In warmer and tropical countries of America. (Symb.).

## 21. Palmae.

528. **Phoenix** Linn.

**Phoenix dactylifera** Linn. Spec. (1753) 1188. Daader.

Cultivated. [Afr. sept.] (Symb.).

549. **Copernicia** Mart.

**Copernicia tectorum** Mart. Hist. Nat. Palm. III. 243. Palmiet.

Cultivated. [N. Granata.] (Kunth).

613. **Oreodoxa** Wild.

**Oreodoxa regia** H. B. K. Nov. Gen. et Spec. I. 305.

Cultivated. [Antill.] (Ind. Kew.).

663. **Cocos** Linn.

**Cocos nucifera** Linn. Spec. (1753) 1188. Kokos.

Cultivated. [Amer. austr. sept. occid.?] (Symb.).

## 22. Cyclanthaceae.

678. **Carludovica** Ruiz. et Pav.

**Carludovica palmata** Ruiz. et Pav. Syst. 291.

Cultivated. [Amer. austr.] (Ind. Kew.).

**24. Lemnaceae.**795. **Lemna** Linn.

**Lemna paucicostata** Hegelm. ex Engelm. in A. Gray Man. Bot. V. ed. (Jan. 1868) 681;

*Lemna minor* Gris. Fl. W. I. (1864) 512. (p.p.) (Symb.).

**Curaçao**: Noord. — Britton & Shafer 2993.

Antill., Amer. cont., Afr., Asia austro-orient., Japon., Australia. (Symb.).

796. **Wolffia** Hork. et Schleid.

**Wolffia punctata** Gris. Fl. Br. W. I. (1864) 512.

**Curaçao**: Britton & Shafer 2994.

Jamaica. (Gris. Fl.); Americ. sept. (Thompson. Amer. Lemn.).

**32. Bromeliaceae.**840. **Bromelia** Linn.

**Bromelia lasiantha** Willd. ap. R. et Sch. Syst. VII (1830) 1233.

**Curaçao**: C (4991); Sik<sub>3</sub> (5249); Sik<sub>3</sub> (5250); Wah (5256); Sik<sub>3</sub> (5257); Sik<sub>3</sub> (5258). — Britton & Shafer 3093.

**Aruba**: Cam.

On Curaçao especially occurring in the Western part with 11 finding places; in the remaining part 2. Not observed on Bonaire.

Venezuela. (Mez. Bromeliac.).

851. **Ananas** Adans.

**Ananas sativus** Schult. f. in R. et Sch. Syst. VII (1830) 1283. Cultivated. [Brasilia]. (Symb.).

890. **Tillandsia** Linn.

**Tillandsia fasciculata** Sw. Prodr. (1788) 56; Gris. Fl. 595.

**Curaçao**: locality unknown.

Florida austral., Baham., Antill., Mexico, Amer. centr. and austro-sept. (Symb.).

**Tillandsia recurvata** Linn. Spec. (1762) 410; Gris. Fl. 598. Barba die Kadoesji, Marie die paaloe.

**Curaçao**: Blw (4750); Mir (6450). — Went 1319, — Britton & Shafer 3024.

**Bonaire**: Rk (7060); Macb (7125).

On Aruba also 4 finding places noted; on Curaçao and Bonaire especially in the Western parts.

Margarita. (Johnston).

Baham., Antill., warmer countries of America. (Symb.).

**Tillandsia usneoides** Linn. Spec. (1762) 411; Gris Fl. 598.

**Curaçao**: seen on the Christoffel Mountain.

Antill., warmer countries of Amer. (Symb.).

**Tillandsia utriculata** Linn. Spec. (1753) 286; Gris. Fl. 596.  
Teekoe die paaloe.

**Curaçao**: Wo (4939); C (5010); C (5053); Beh (5525); Mirh (6448).

**Bonaire**: Lash (7223).

On Aruba also 2 finding places noted, occurring especially in the wooded parts, 11 finding places in all.

Margarita. (Johnston).

Florida austral., Baham., Antill., Mexico, Venezuela, Guiana. (Symb.).

### 33. Commelinaceae.

896. **Commelina** Linn.

**Commelina virginica** Linn. Spec. (1762) 62;

*Commelina elegans* H. B. K. Nov. Gen. I (1815) 259; Gris. Fl. 525. Maisji grandi sjimarón.

**Curaçao**: Blt (4903); Wk (4958); Kit (5499); Be (5551). — Suringar, — Lens 813, — Versluys 1420.

**Aruba**: Ok<sub>2</sub> (6241); Beh (6428). — Suringar.

**Bonaire**: R (7093); R (7385).

Occurring on Curaçao especially in the Western part: 13 finding places, hardly ever on lime; on Aruba 5 finding places, on Bonaire 2.

Antill., warmer countries of Amer. cont. (Symb.).

912. **Callisia** Linn.

**Callisia repens** Linn. Spec. (1752) 62; Gris. Fl. 524.

**Curaçao**; Suringar.

**Aruba**: Beh (6428); Savk (6552).

Antill., Mexico, Amer. centr., Venezuela, Peru, Bras. (Symb.).

**38. Liliaceae.**1026. **Aloe** Linn.**Aloe vera** Linn. Spec. (1753) 320;*Aloe vulgaris* Lam. Encycl. I (1784) 86; Gris. Fl. 582. Sinto b i e b o.**Curaçao:** Went 1318.**Aruba:** Suringar.**Bonaire:** Bact (7474).

On Curaçao especially in the middle part, 14 finding places; on Aruba 4 finding places noted, on Bonaire 2.

Cultivated and escaped. [Indig. in mediterr. countries and Canar. Isl.] (Symb.).

1110. **Sansevieria** Thunb.**Sansevieria guineensis** Willd. Spec. Plant. II (1799) 159. J e e r b a k o e l e e b r a.

Cultivated. [Afr. trop.] (Symb.).

**40. Amaryllidaceae.**1194. **Hymenocallis** Salisb.**Hymenocallis caribaea** Herb. App. Bot. Reg. (1821) 14;*Pancratium caribaeum* Linn. Spec. (1753) 291; Gris. Fl. 583.

Cultivated. [Florida, Baham., Antill.] (Symb.).

1196. **Eucharis** Planch.**Eucharis grandiflora** Planch. et Linden in Fl. des Serres. Sér. I. (IX) (1853—1854) 255.

Cultivated. [New Granada.] (Ind. Kew.).

1208. **Hippeastrum** Herb.**Hippeastrum puniceum** Urb. in Symb. Antill. IV (1903) 151.

Cultivated. [Antill., Amer. trop.] (Symb.).

1219. **Agave** Linn.**Agave Boldinghiana** Trelease, Agave in the West Indies in: Mem. Nat. Acad. Sc. XI (1913) p. 21. t. 11, 12, 13. K o e k i s p a n j o o l, K o e k i i n d i a n.

Cultivated.

**Agave Cantula** Roxb. Fl. Ind. II 167.

Cultivated.

**Agave fourcroydes** Lemaire Ill. Hort. vol. 11, miscell. (1864) 65.

Cultivated.

**Agave petiolata** Trelease, Agave in the West Indies in: Mem. Nat. Acad. Sc. XI (1913) p. 20, t. 8.

Cultivated.

**Agave sisalana** Perrine, House Doc. No. 564, pp. 8, 9 e.a. (1838). Pieta.

Cultivated.

**Agave Trankeera** Trelease, Agave in the West Indies in: Mem. Nat. Acad. Sc. XI (1913) p. 26, t. 25, 26, 27, 28. Pieta die trankeer.

**Curaçao**: Boldingh. — Ecker, — Britton & Shafer 2924.

**Aruba**: Boldingh.

**Bonaire**: Boldingh.

**Agave vicina** Trelease, Agave in the West Indies in: Mem. Nat. Acad. Sc. XI (1913) p. 19, t. 4, 10. Koeki spanjool, Koekoe indian.

**Aruba**: Boldingh.

**Agave vivipara** Linn. Spec. (1753) 323. Koeki indian.

**Curaçao**: Boldingh. — Ecker, — Britton & Shafer 3060.

#### 1222. **Furcraea** Vent.

**Furcraea gigantea** Vent. in Bull. Soc. Philom. (1793). Pieta vlas.

Cultivated.

### 45. **Musaceae.**

1318. **Musa** Linn.

**Musa paradisiaca** Linn. Spec. (1753) 1043. Banana, Bakooba.

Cultivated. [India orient.] (Symb.).

### 47. **Cannaceae.**

1363. **Canna** Linn.

**Canna indica** Linn. Spec. (1753) 1. Canna.

Cultivated. [Cosmop. trop.] (Ind. Kew.).

**48. Marantaceae.**1370. **Maranta** Linn.

**Maranta arundinacea** Linn. Spec. (1753) 2. Arraroot.  
Cultivated. [Baham., Antill., Amer. cont. trop.] (Symb.).

**50. Orchidaceae.**1618. **Schomburgkia** Lindl.

**Schomburgkia tibicinis** Batem. Orchid. Mex. et Guat. t. 30.  
Banana sjimaròn.

**Curaçao**: C (5005). — Aschenberg.

**Bonaire**: Lash (7225).

Honduras. (Walp. Ann. Bot. VI).

1619. **Brassavola** R. Br.

**Brassavola nodosa** Lindl. Gen. and Sp. Orch. (1831) 114, in Bot.  
Reg. XVIII t. 1465; Gris. Fl. 621.

**Curaçao**: locality unknown. — Aschenberg.

Antill., Mexic. austr., Amer. centr., Columbia, Venez., Peru.  
(Symb.).

**Dicotyledoneae.****53. Piperaceae.**1866. **Peperomia** Ruiz. et Pav.

**Peperomia petiolaris** C. DC. in Seem. Journ. of Bot. IV (1866) 138.  
Cultivated. [Cuba, Paraguay.] (Symb.).

**63. Ulmaceae.**1898. **Celtis** Linn.

**Celtis Iguanaea** Sarg. Silva VII (1895) 64;

*Celtis aculeata* Sw. Prodr. (1788) 53; Gris. Fl. 149. Bessji  
igoeaana, Jeerba igoeaana, Raambessji.

**Curaçao**: Sh (4970); H<sub>2</sub> (5113). — Suringar, — Britton & Shafer  
3104.

**Aruba**: Bek (6432); Bek (7055).

**Bonaire:** Bonk (7492). — Suringar.

On Curaçao in the wooded part 11 finding places outside the lime district; on Aruba 2 finding places noted, on Bonaire 7.

Margarita. (Johnston).

Antill., Amer. cont. trop. (Symb.).

## 64. Moraceae.

1919. **Chlorophora** Gaudich.

**Chlorophora tinctoria** Gaudich. in Freyc. Voy. Bot. (1829) 508;

*Maclura tinctoria* D. Don ex Steud. Nomencl. II ed. II (1814) 87; Gris. Fl. 153;

*Maclura xanthoxylon* Endl. Gen. Suppl. IV. II (1847) 34; Gris. Fl. 153. Paaloe die moora, Paaloe doesji.

**Curaçao:** Vw (4702). — Suringar, — Went 1330.

**Bonaire:** Suringar.

On Curaçao alone 13 finding places noted, nearly always in courts and not on lime soil.

Antill., Amer. cont. trop. (Symb.).

1961. **Ficus** Linn.

**Ficus Brittonii** Boldingh. (n. sp.) ramulis tenuibus, in sicco subrugoso-sulcatis; stipulis glabris caducis; foliis membranaceis vel subpergamaceis, glabris, oblongis ovato-oblongis usque ellipticis, basi cuneato-subacutis, apice apiculatis usque mucronatis, basi trineruiis, venis primariis haud crebris; petiolis longis; receptaculis binis vel solitariis axillaribus, pisiformibus, globosis, basi bracteis 2 parvis connatis suffultis; ostiolo elevato; pedunculis quam receptacula longioribus glabris.

Arbor vel planta scandens.

Ramuli 3–4 mm. lati, in sicco cinereo-brunei. Stipulae 1 cm. longae, lanceolatae acutae in sicco brunescens. Petioli glabri 0,5–2,5 cm. longi, 1–2 mm. lati, in sicco brunei; folia 3–9 cm. longa, 2–4 cm. lata, in sicco brunea, subtus haud pallidiora, nervis basalibus vulgo  $\frac{1}{2}$  folii haud superantibus, venis utrinque 6–8 patentibus tenuibus ad marginem arcuato-connexis, utrinque prominulis, interspersis parallelis tenuioribus, nervis tertiariis conspicuis, reticulatione subtus conspicua. Receptacula 6 mm. in diametro. Pedunculi 4–6 mm. longi, 1 mm. lati, in sicco brunei, bracteis 1 mm. longis, patentibus in sicco brunei. Ostiolum 2 mm. latum, squamis rotundatis vel acutis in sicco bruneis clausum. Florum ♀ sepala rotundata, 0,5 mm. longa.

Mata paaloe. Plate I.

**Curaçao:** Hofje Klein Piscadera (4832); Mount Christoffel (5023); Slope of the Hieronymusberg (5116); Calcareous hills near Siberie



(5169); Hofje Hato (5342); Calcareous hills near St.-Jan (5642). — Britton & Shafer 3106.

**Bonaire**: Calcareous plateau of Montagna (7423). — Suringar.

**Ficus Carica** Linn. Sp. Pl. 1059.

Cultivated. [Eur., Oriens.] (Ind. Kew.).

**Ficus elastica** Roxb. Hort. beng. (1814) 65.

Cultivated. [Ex Assam vel Malesia.] (Symb.).

## 65. Urticaceæ

1984. **Pilea** Lindl.

**Pilea herniarioides** Lindl. Coll. bot. (1821) sub tab. 4.

**Curaçao**: H<sub>2</sub> (5114); Wh (5573); Heh (5648). — Suringar, — Britton & Shafer 2949.

**Aruba**: Camk (6371); Camk (6379); Bek (6433); Nick (6500).— Suringar.

**Bonaire**: Rk (7041).

Key Ins., Baham., Antill., Costarica. (Symb.).

**Pilea microphylla** Liebm. in Vidensk. Selsk. Skr. Kopenh. V. Ser. Vol. II (1851) 286; Gris. Fl. 155.

Cultivated. [Florida austr., Bermud., Baham., Antill., Amer. cont. trop.] (Symb.).

**Pilea nummularifolia** Wedd. in Ann. Sc. nat. III Ser. XVIII (1852) 225.

Cultivated. [Antill.] (Symb.).

## 67. Loranthaceæ.

2089. **Phoradendron** Nutt.

**Phoradendron trinervium** Gris Flor. W. I. (1860) 314.

**Curaçao**: Hk (5123).

**Bonaire**: Montkz (7394).

Antill., Costarica. (Symb.).

## 72. Olacaceæ.

2129. **Schoepfia** Schreb.

**Schoepfia Schreberi** J. F. Gmel. Syst. (1791) 376.

**Curaçao**: Moh (4853); Bah (5181); Pew (5277); M<sub>3</sub>. — Britton & Shafer 3086.

**Aruba:** Mirh (6446).

**Bonaire:** Rk (7069); Rk (7072); Montkr (7421).

Antill., Mexico? San Salvador? Venezuela. (Symb.).

## 77. Polygonaceae.

### 2205. **Antigonon** Endl.

**Antigonon leptopus** Hook. et Arn. Bot. Beech. (1841) 308 t. 69.  
Begissima.

Cultivated. [Jamaica.] (Gris. Fl.).

### 2209. **Coccoloba** Linn.

**Coccoloba diversifolia** Jacq. Enum. Syst. (1760) 19;

*Coccoloba punctata* Gris. (non L.) Flor. W. I. (1859) 163;

*Coccoloba diversifolia* Gris. (non Jacq.) pr. p. Flor. W. I. (1859) 163. (Symb.). Bessji die kalakoena, Dreifi sjimarón, Kamaalia, Kamaari, Manggel die sabaana, Paaloe die lamán, Red mangel, Witte manggel.

**Curaçao:** Mok (4827); Mh (4881); Mh (4882); H (5070); Sik<sub>3</sub> (5240); R (5330); K (5463). — Aschenberg, — Suringar, — Britton & Shafer (3082).

**Aruba:** Jam (6306); Cank (6384). — Suringar.

**Bonaire:** Rk (7051); Macb (7122); Soebh (7274); Bonk (7489). — Suringar.

Generally spread in parts with well developed woods; on Curaçao 28 finding places noted, especially in the Western part and on the Western border of the Eastern half; on Aruba 7 finding places noted and on Bonaire 18.

Baham., Antill. (Symb.).

**Coccoloba uvifera** Jacq. Enum. Syst. 19; Gris. Fl. 161. Dreifi die lamán, Zeedreifi.

**Curaçao:** Suringar, — Britton & Shafer 2951.

**Aruba:** Mand (6290).

Bermud., Florida, Baham., Antill., Mexico, Amer. centr., Venezuela, Guiana. (Symb.).

### 2210. **Triplaris** Loeffl.

**Triplaris coriacea** Krst. in Fl. Columbiae II (1862—69) 131.  
Manggel die sabaana.

**Curaçao:** C (4943); C (5003); C (5024); Hz (5139); Wah (5255); Sit (5298); Ch (5415); Ch (5416); Be (5506); Beh (5509).

On Curaçao 13 finding places noted in the Western part and near Choloma; not observed on Aruba and Bonaire.

Barcelona, Caracas. (Karsten Fl. Columb.).

## 78. Chenopodiaceae.

### 2223. *Chenopodium* Linn.

***Chenopodium ambrosioides*** Linn. Spec. (1753) 219; Gris. Fl. 60. Jeerba froeminga, Passoota, Sagradoo.

**Curaçao:** Suringar.

**Aruba:** Suringar.

Margarita. (Johnston).

Trop. and warmer countries of both hemisph. (Symb.).

***Chenopodium murale*** Linn. Spec. (1753) 219; Gris. Fl. 60.

**Curaçao:** Aschenberg, — Suringar, — Britton & Shafer 3059.

**Aruba:** locality unknown. — Suringar.

Baham., Antill., Indig. in the Old World. (Symb.).

### 2229. *Atriplex* Linn.

***Atriplex cristata*** H. B. in Willd. Spec. IV. II (1806) 959.

**Curaçao:** Suringar, — Britton & Shafer 2926.

**Aruba:** locality unknown.

Bermud., Florida austral., Baham., Antill., Venezuela, Nova Granata, Peruvia. (Symb.).

### 2257. *Salicornia* Linn.

***Salicornia ambigua*** Michx. Flor. Bor. Amer. I. 2.

**Curaçao:** Suringar, — Britton & Shafer 2929.

**Aruba:** Serkz (6507). — Suringar.

**Bonaire:** Lack (7478). — Suringar.

Margarita. (Johnston).

Amer. sept. (Eng. u. Prntl.).

## 79. Amarantaceae.

### 2299. *Amarantus* Linn.

***Amarantus crassipes*** Schlecht. in Linnaea VI (1831) 757;

*Sceloporus amarantoides* Schrad. in Ind. Sem. hort. Götting. (1835); Gris. Fl. 68.

**Curaçao**: Bat (5234); (5737). — Britton & Shafer. Margarita. (Johnston).

Florida, Key West, Antill., Amer. cont. from Mexico to Peru. (Symb.).

**Amaranthus gracilis** Desf. Tabl. I ed. (1804) 43;

*Euxolus caudatus* Moq. in DC. Prodr. XIII, II (1849) 247; Gris. Fl. 68;

*Amarantus caudatus* Linn. Spec. (1753) 990.

**Curaçao**: A (5154). — Suringar, — Britton & Shafer.

**Bonaire**: Suringar.

Baham., Antill., trop. countries of both hemisph. (Symb.).

**Amarantus polygonoides** Linn. Pl. Jam. Pugil. II (1759) 27;

*Amblogyne polygonoides* Raf. Fl. Tellur. III (1836) 42; Gris. Fl. 68. Kalaloe die poorko.

**Curaçao**: Hk (5082). — Suringar, — Britton & Shafer 3123.

**Aruba**: Savk (6542). — Suringar.

**Bonaire**: Suringar.

Florida, Key, Baham., Antill. (Symb.).

**Amarantus tristis** Linn. Spec. (1753) 989; Gris. Fl. 69. Kalaloe.

**Curaçao**: Cas (4793); St (4964); TC (5434b); M 6. — Suringar, — Britton & Shafer 2983, 3136.

**Aruba**: Siv (6310). — Suringar.

**Bonaire**: R (7164). — Suringar.

Margarita. (Johnston).

Antill., Chile. (Symb.).

#### 2328. **Achyranthes** Linn.

**Achyranthes obtusifolia** Lam. Enc. I (1783) 545;

*Achyranthes aspera* var. *obtusifolia* Gris. Flor. W. I. (1860) 220.

**Curaçao**: Hw (5562).

Margarita. (Johnston).

Antill., Afr., Asia trop., Ins. Paul. (Symb.).

#### 2335. **Alternanthera** Forsk.

**Alternanthera brasiliana** O. Ktze. Rev. II (1891) 537 p.p. (Symb.);

*Mogiphanes straminea* Mart. Nov. Gen. II (1826) 35, t. 135; Gris. Fl. 64.

**Aruba**: Bek (6434); Mirh (6453). — Suringar.

**Bonaire**: R (7186). — Suringar.

Florida, Antill., Amer. cont. trop. (Symb.).

**Alternanthera ficoidea** R. Br. Prodr. I (1810) 417, vel affin.;  
*Alternanthera polygonoides* Gris. Flor. W. I. (1859) 67.

**Curaçao**: Nasw (4684); Pit (4834); Asc (5295). — Suringar, — Britton & Shafer 3067.

**Aruba**: Siw (6308). — Suringar.

Margarita. (Johnston).

Antill., Amer. austr., Ins. Philip. (Symb.).

2338. **Gomphrena** Linn.

**Gomphrena globosa** Linn. Spec. (1753) 224.

Cultivated. [Indig. Asia orient. and austr. from Ins. Sundaic. to Nova Guinea.] (Symb.).

2339\*. **Philoxerus** R. Br.

cf. 2339. **Iresine** Linn. Sect. 1.

**Philoxerus vermicularis** R. Br. Prodr. I (1810) 410; Gris. Fl. 65.

**Curaçao**: Suringar, — Britton & Shafer 2923.

Margarita. (Johnston).

Florida austr., Key Ins., Baham., Antill., Amer. cont. trop., Afr. occid. (Symb.).

2339\*\* **Lithophila** Swartz.

cf. 2339. **Iresine** Linn.

**Lithophila muscoides** Sw. Prodr. (1788) 14; Gris. Fl. 66;

*Alternanthera muscoides* Bent. et Hook. f. Gen. vol. 3 (1880) 39.  
 Jeerba koessientsji, Polet die pieedra.

**Curaçao**: Vd (4736); Pk (5483); Hwk (5567). — Suringar, — Britton & Shafer 2925.

**Aruba**: Ok<sub>2</sub> (6219); Mankz (6276); Mankz (6282); Bakk (6338); Bakk (6339); Bek (6421b); Fontz (6471); Ser (6513); Savh (6525); Fontk (6566). — Suringar.

**Bonaire**: Grk (7173); R (7180); Grkz (7174); Savkz (7346); Lack (7477); Zoutz (7499). — Suringar.

Margarita. (Johnston).

Very widely spread; on Curaçao 15 finding places noted, on Aruba 19 and on Bonaire 11.

From the Bahamas to the Dutch W. I. Islands Curaçao, Aruba and Bonaire. (Symb.).

## 80. Nyctaginaceae.

2347. **Mirabilis** Linn.**Mirabilis Jalapa** Linn. Spec. (1753) 177.

Cultivated. [Amer. trop.] (Symb.).

2349. **Boerhaavea** Linn.**Boerhaavea coccinea** Mill. Gard. Dict. VIII ed. (1768) n. 4;*Boerhaavea hirsuta* Willd. Phytogr. (1794) 1; Gris. Fl. 69;*Boerhaavea repens* Linn. Spec. (1753) 3. Bataata die poorko, Mata poorko, Waada waada, Waada waada maatsjoe.**Curaçao**: Suringar.

Antill., Amer. sept. and centr. (Symb.).

**Boerhaavea erecta** Linn. Spec. (1753) 3; Gris. Fl. 69. Bataata die poorko, Mata poorko, Waada waada, Waada waada maatsjoe.**Curaçao**: Mo (4815); St (4961); Jt (5422). — Aschenberg, — Suringar.**Aruba**: Siw (6316). — Suringar.

Margarita. (Johnston).

Bermud., Baham., Antill., Amer. cont. (Symb.).

**Boerhaavea paniculata** L. Cl. Rich. in Act. Hist. Nat. Par. I (1792) 105; Gris. Fl. 69. Bataata die poorko, Mata poorko, Waada waada, Waada waada maatsjoe.**Curaçao**: V (4728); Mo (4816); St (4960). — Lens 815.**Aruba**: Mirh (6457a); Fontz (6473).

Margarita. (Johnston).

Baham., Antill., Amer. centr. and austral. (Symb.).

**Boerhaavea scandens** Linn. Spec. (1753) 3; Gris. Fl. 69. Jeerba die piepa, Jeerba kanggrœuw, Kwareel.**Curaçao**: Bh (4759). — Aschenberg, — Suringar, — Went 1336, — Britton & Shafer 2912.**Aruba**: (6206); Nick (6491). — Suringar.**Bonaire**: R (7089). — Suringar.

Baham., Antill., Amer. cont. from Arizona to Peru. (Symb.).

2350. **Bougainvillea** Comm.**Bougainvillea spectabilis** Willd. Spec. Pl. II (1799) 348. Trinaria.

Cultivated. [Trop. Americ.] (Johnston).

2354. **Pisonia** Linn.

**Pisonia bonairensis** Boldingh. (n. sp.) foliis ellipticis vel oblongo-ellipticis, basi breviter in petiolum 1—2 cm. longum attenuatis, apice in acumine attenuatis, 4—8 cm. longis, 2—4 cm. latis, coriaceis, superne nitidis. Inflorescentiis pedunculo tenui, plurifloris, corymbiformis vel subumbellatis. Floribus puberulis, pedicellis 0,1—0,3 cm. longis. Perianthiis ♂ 0,4 cm. longis, infundibuliformis. Staminibus 6—8, perianthio plus quam duplo longioribus. Perianthiis, ♀ 0,3 cm. longis, cylindraceutis. Anthocarpiis ignotis.

Arbor; rami grisei brunescetes; folia vivo viridia superne opaca, nervo mediano conspicuo prominente, nervis lateralibus 5—7 utrinque vix prominentibus. Inflorescentia pedunculo communi 3—6 cm. longo, ramulis ultimis umbellulas plerumque trifloras gerentibus. Flores basi 2—3 bracteolis, minutissimis circumdati. Perianthia ♂ apice aperta acuto 5 lobata. Stamina ad 0,5—0,7 cm. longa, excerta, libera.

Perianthia ♀ supra distincte contracta, limbo 5 lobulato, parvissime puberula cylindraceuta. Germen 0,2 cm. longum, strigmate digitatum fimbriato.

Laabra, Mahoebaari, Masjiboeri, Moesti sámbó. Plate II.

**Curaçao**: Calcareous hills near Hermanus 5077; Hills between Hieronymusberg and Savonet 5124, 5128; Antonyberg 5146; Hills near Barber 5180, 5182\*; near Davelaar 5401\*; Hills near Blein 5515; Hofje of Knip 5539; Hills near Brakkeput ariba 5548.

**Aruba**: Slope of Jamanota 6299; Slope of Hooiberg 6365; Calcareous hills near Belashi 6430\*; Hills near Savaneta 6532.

**Bonaire**: Slope of Joewa 7200, 7222; Rincon 7022; Calcareous plateau near Fontein 7248; Hills near Salina Playa Grandi 7293.

Occuring only in the wooded parts; on Curaçao 20 finding places noted on Aruba 6, on Bonaire 12.

\* Description after no. 5401, 5182 and 6430.

**Pisonia fragrans** Dumont Cours. Bot. Cult. II ed. Vol. VII (1814) 114;

*Pisonia obtusata* Sw. Flor. III (1806) 1960 (non Jacq. 1798); Gris. Fl. 71 p.p. (Symb.);

*Pisonia inermis* Gris. Flor. W. I. (1859) 7 (p.p. non Jacq.) (Symb.). (Johnston).

**Curaçao**: Mah (4857); C (5002); K (5464); Hwk (5564); Wh (5577).

**Aruba**: Savh (6533).

**Bonaire**: Macb (7123); Bolko (7360); Bolko (7372); Montkz (7412); Montkr (7416).

Margarita. (Johnston).

Florida austr., Antill., Amer. centr., Columbia, Guiana. (Symb.).

**81. Batidaceae.**2362. **Batis** Linn.

**Batis maritima** Linn. Syst. X. ed. II (1759) 1380; Gris. Fl. 61.  
Banana die rif.

**Curaçao**: Rif, Lagoen Labadera. — Suringar, — Britton & Shafer 2927.

**Aruba**: Bez (6439); Serkz (6509). — Suringar.

**Bonaire**: Krakz (7442). — Suringar.

Margarita. (Johnston).

Florida, Baham., Antill., Amer. cont. trop. orient., Californ.,  
Ins Sandw. (Symb.).

**83. Phytolaccaceae.**2370. **Rivina** Linn.

**Rivina humilis** Linn. Spec. (1753) 121;

*Rivina laevis* Linn. Mant. I (1767) 41; Gris. Fl. 59. Stakama-  
hatsji.

**Curaçao**: C (5016). — Suringar.

**Aruba**: Savk (6523a). — Suringar.

**Bonaire**: Rk (7045); Rk (7047); Joh (7210); Joh (7214). — Su-  
ringar.

Margarita. (Johnston).

Flora austr., Baham., Antill., Amer. cont. trop. and sub trop.  
(Symb.).

**84. Aizoaceae.**2387. **Mollugo** Linn.

**Mollugo verticillata** Linn. Spec. (1753) 89; Gris. Fl. 56.

**Curaçao**: Vat (5373). — Suringar, — Britton & Shafer 3036.

**Aruba**: L (6251); Mirh (6459). — Suringar.

**Bonaire**: Suringar.

Margarita. (Johnston).

Antill., Amer. cont. (Symb.).

2394. **Sesuvium** Linn.

**Sesuvium portulacastrum** Linn. Syst. X ed. II (1759) 1058;  
Gris. Fl. 57.

**Curaçao**: Ms (4899); Hz (5137). — Suringar, — Britton & Shafer 2928.



**Aruba** : Mankz (6281); Fontt (6472). — Suringar.

**Bonaire** : Okz (7240); Mat (7300); Lagz (7464); Lagz (7465); Lagk (7481). — Suringar.

Observed only on lime; 18 finding places noted in all.

Margarita. (Johnston).

Bermud., Baham., Antill., trop. and sub trop. countries of both hemisph. (Symb.).

#### 2395. **Trianthea** Linn.

**Trianthea portulacastrum** Linn. Spec. (1753) 223;

*Trianthea monogynum* Linn. Mant. I (1767) 69; Gris. Fl. 58.

**Curaçao** : Suringar, — Britton & Shafer 3063.

**Aruba** : Siv (6314); Siw (6320). — Suringar.

**Bonaire** : Mat (7298). — Suringar.

Margarita. (Johnston).

Key, Antill., Amer. cont. trop., Afr. and Asia trop. (Symb.).

### 85. **Portulacaceae.**

#### 2406. **Talinum** Adans.

**Talinum triangulare** Willd. Spec. II (1800) 862; Gris. Fl. 56.

**Curaçao** : A (5147); A (5148).

Margarita. (Johnston).

Antill., Amer. austr. (Symb.).

#### 2421. **Portulaca** Linn.

**Portulaca halimoides** Linn. Spec. (1762) 639; Gris. Fl. 57. Jeerba kaneeuw, Jeerba konijntsji, Jeerba poesji, Piea palooma.

**Curaçao** : Mh (4873); Pek (5287); Hwk (5567*a*). — Suringar, — Went 1344, — Lens 837, — Britton & Shafer 3045.

**Aruba** : Ok<sub>2</sub> (6258); Mankz (6294); Ajw (6343*f*); Bek (6424*a*). — Suringar.

**Bonaire** : Savk (7345). — Suringar.

Scarce, 8 finding places noted in all.

Margarita. (Johnston).

Antill., Mexico. (Symb.).

**Portulaca oleracea** Linn. Spec. (1753) 445; Gris. Fl. 57. Beembe.

**Curaçao** : Suringar.

**Aruba** : Suringar.

Margarita. (Johnston).

Bermud., Baham., Antill., trop. and warmer countries of both hemisph. (Symb.).

**Portulaca phaeosperma** Urb. in Symb. Antill. IV (1905) 233.

**Curaçao**: V (4732); Sk (5040); Zt (5382). — Suringar.  
Portorico, Hispaniola. (Symb.).

**Portulaca venezuelensis** Urb. in Symb. Antill. V (1907) 344.  
Beembe sjimarón, Jeerba kaneeuw maatsjoe, Pica palooma.

**Curaçao**: W (4928); Bah (5176); Beh (5528); Be (5550); Wh (5575). —  
Suringar, — Britton & Shafer 3038.

**Aruba**: Jabh (6273); Nick (6497). — Suringar.

**Bonaire**: Joh (7220); Bolko (7356). — Suringar.

On Curaçao 13 finding places noted outside lime, on Aruba 4, on Bonaire 3.  
Margarita. (Johnston).  
Venezuela. (Symb.).

## 88. Nymphaeaceae.

2513. **Nymphaea** Linn.

**Nymphaea ampla** DC. Syst. II (1821) 54; Gris. Fl. 11.

**Curaçao**: M 23.

Baham., Antill., Amer. cent., Amer. merid. (Symb.).

## 94. Menispermaceae.

2574. **Cissampelos** Linn.

**Cissampelos Pareira** Linn. Spec. (1753) 1031; Gris. Fl. 10. Jeerba pataaka, Rais die pataaka.

**Curaçao**: Wo (5448).

**Bonaire**: Montkz (7411).

Margarita. (Johnston).

All tropical countries. (Symb.).

## 98. Anonaceae.

2729. **Anona** Linn.

**Anona muricata** Linn. Spec. (1753) 536; Gris. Fl. 4. Sorsaaka.  
Cultivated. [Antill.] (Symb.).

**Anona palustris** Linn. Spec. II ed. I (1762) 757; Gris. Fl. 5.  
Kajoeda.

Cultivated? [Antill., Amer. austr., Afr. occid.] (Symb.).

**Anona reticulata** Linn. Spec. (1753) 537; Gris. Fl. 5.  
Cultivated. [Antill.] (Symb.).

**Anona squamosa** Linn. Spec. (1753) 537; Gris. Fl. 5. Skopappel.  
Cultivated [Antill.] (Symb.).

## 102. Lauraceae.

2783. **Persea** Gärtn.

**Persea americana** Mill. Gard. Dict. VIII ed. (1768).  
Cultivated. [Mexico.] (Symb.).

## 104. Papaveraceae.

2852. **Argemone** Linn.

**Argemone mexicana** Linn. Spec. (1753) 508; Gris. Fl. 13. Pol  
ber sjimarón, Tjimitjimi.

**Curaçao**: Aschenberg, — Suringar.

**Bonaire**: R (7088). — Suringar.

Margarita. (Johnston).

Bermud., Baham., Antill., Amer. cont. trop. and from there  
in trop. countries of the Old World. (Symb.).

## 105. Cruciferae.

3003 **Greggia** A. Gray.

**Greggia Urbaniana** Muschler in Urb. Symb. Antill. VII (1912) 226.  
**Aruba**: Suringar.

## 107. Capparidaceae.

3082. **Cleome** Linn.

**Cleome stenophylla** Klotzsch ex Symb. Antill. IV (1905) 251.  
in Rich. Schomb. Reise III (1848) 1164.

**Curaçao**: Cas (4800); Mo (4816); Aw (5164); Bat (5224); Hk  
(5319a); Kit (5489). — Suringar, — Britton & Shafer 3046.

**Aruba**: Suringar.

**Bonaire**: Rt (7158).

Portorico, St. Barthélémy, Guiana. (Symb.).

3087. **Gynandropsis** D C.

**Gynandropsis pentaphylla** D C. Prodr. I (1824) 238;

*Cleome pentaphylla* Linn. Spec. (1763) 938; Gris. Fl. 15.  
Jeerba kaaja.

**Curaçao:** St (4959). — Suringar, — Went 1352.

**Bonaire:** Zoutkg (7505).

Margarita. (Johnston).

Baham., Antill., Amer. cont. calid., indig. in Afr. and Asia trop. (Symb.).

3095. **Crataeva** Linn.

**Crataeva gynandra** Linn. Spec. ed. II. I (1762) 636; Gris Fl. 17.

Soeroen die moondi.

**Bonaire:** R (7114).

**Aruba:** seen near Canashito.

Margarita. (Johnston).

Common in tropical America. (Johnston).

3101. **Capparis** Linn.

**Capparis Breynia** Jacq. Sel. Amer. (1763) 161 t. 103;

*Capparis amygdalina* Lam. Enc. I (1783) 608; Gris. Fl. 17.  
Jeerba mosterd, Olieba maatsjoe, Paaloe preetoe,  
Raaba, Horse radish.

**Curaçao:** Pit (4837); Mo (4898); C (4994); Beh (5519). — Aschenberg, — Suringar, — Britton & Shafer 3133.

**Aruba:** Jam (6302); Fonth (6463).

**Bonaire:** Rk (7040); Lash (7217). — Suringar.

Occurring in the wooded part; on Curaçao 10 finding places almost exclusively outside the lime region; on Aruba 6, on Bonaire 12 finding places.

Margarita. (Johnston).

Antill., Amer. centr., Nova Granata, Venezuela. (Symb.).

**Capparis cynophallophora** var. **latifolia** Griseb. Flor. W.I. (1859) 18. p.p. (Symb.). Hoerihoeri, Jeerba mosterd, Paaloe die loora, Raaba, Stokki.

**Curaçao:** Pit (4838); Sik<sub>2</sub> (5259); Krk (5593). — Aschenberg, — Suringar.

**Aruba:** Savk (6544).

**Bonaire:** R (7021); Joh (7218); Joh (7219); R (7284); Tolzk (7285); Montkz (7404). — Suringar.

Margarita. (Johnston).

Occurring in the wooded part; on Curaçao 13 finding places noted; on Aruba 3 and on Bonaire 16.

Antill., Venezuela. (Symb.).

**Capparis jamaicensis** Jacq. Enum. (1760) 23; Gris. Fl. 18. Olieba.

**Curaçao:** Vd (4738); Wh (4947); H (5071); Hk (5133); Sik<sub>2</sub> (5197); Vat (5351); Caz (5414); Kit (5474). — Aschenberg, — Suringar.

**Aruba:** Ajh (6346); Camk (6382); Bek (6425); Nick (6493). — Suringar.

**Bonaire:** R (7023). — Suringar.

Margarita. (Johnston).

Generally occurring in the wooded part; on Curaçao 21 finding places noted, on Aruba 16, on Bonaire 23.

Florida austr., Baham., Antill. (Symb.).

**Capparis linearis** Jacq. Enum. pl. Carib., (1760) 24. Keede-bessji.

**Curaçao:** Wh (4946); H (5072); H<sub>2</sub> (5117). — Suringar.

**Aruba:** Bek (6426).

On Curaçao especially in the Christoffel complex; 8 finding places noted; on Aruba 7 in the wooded part; not observed on Bonaire.

Margarita. (Johnston).

Venezuela and Northern South America. (Johnston).

**Capparis tenuisiliqua** Jacq. Enum. pl. Carib. (1760) 24.

**Curaçao:** C (4999); C (5001); C (5014).

**Bonaire:** Joh (7207); Joh (7221).

Margarita. (Johnston).

Venezuela, Columbia. (Johnston).

#### 3104. **Morisonia** Linn.

**Morisonia americana** Linn. Spec. (1753) 503; Gris. Fl. 19.

**Aruba:** Fouth (6441); Savk (6522). — Suringar.

Margarita. (Johnston).

Venezuela, West Indies. (Johnston).

### 109. **Moringaceae.**

#### 3128. **Moringa** Juss.

**Moringa oleifera** Lam. Encyc. I (1783) 398;

*Moringa pterygosperma* Gärtn. Fruct. II (1791) 314 t. 147 f. 2;  
Gris. Fl. 16. Ben boom, Orengga, Salaster.

Cultivated. [Indig. in India orient.] (Symb.).

## 126. Rosaceae.

3398. **Chrysobalanus** Linn.

**Chrysobalanus icaco** Linn. Spec. (1753) 513; Gris. Fl. 229.  
Ekaakes.

Cultivated. [Florida austr., Baham., Antill., Amer. austr., Afr. austr.] (Symb.).

## 128. Leguminosae.

3441. **Pithecolobium** Mart.

**Pithecolobium ligustrinum** Klotzsch ex Benth. Trans. Linn. Soc. vol. 30 (1875) 571.

Cultivated. [American tropics.] (Johnston).

**Pithecolobium platylobum** Urb. in Symb. Antill. V (1908) 360.  
Daabaroeieda, Jaaga.

**Aruba**: Ajw (5355); Fontk (6480); Nick (6502). — Suringar.

Only observed on Aruba; 10 finding places noted, especially in the mountainous part.

Venezuela. Nova Granata. (Symb.).

**Pithecolobium ungius-cati** Benth. in Hook. Lond. Journ. Bot. III (1844) 200; Gris. Fl. 226. Unguis die poesji, Unguis gaati.

**Curaçao**: Bh (4764); B (4775); Vat (5369); Beh (5524); Jaz (5644a). — Suringar, — Britton & Shafer 3131.

**Aruba**: L (6268); Jam (6300); How (6358); Fonth (6443); Mirh (6462); Nick (6486). — Suringar.

**Bonaire**: R (7111); Ri (7105); R (7146). — Suringar.

Spread; on Curaçao 11 finding places noted; on Aruba 8, on Bonaire 24.

Margarita. (Johnston).

Florida austr., Key ins., Antill., Venezuela, Nova Granata. (Symb.).

3443. **Albizzia** Durazz.

**Albizzia lebbek** Benth. in Hook. Lond. Journ. Bot. III (1844) 87.  
Barba die jonkeman.

Cultivated. [Baham., Antill., Asia austr. and orient., Afr. trop.] (Symb.).

3446. **Acacia** Willd.

**Acacia tortuosa** Willd. Spec. Plant. IV (1805) 1083; Gris. Fl. 222. Oebaada, Waabi.

**Curaçao:** Rih (4652); S (5030); Hk (5131*a*); Rih (5324); Pk (5467); (5735). — Suringar, — Went 1120, — Lens 845, — Britton & Shafer.

**Aruba:** Hoh (6363); Savh (6534). — Suringar.

**Bonaire:** Rk (7068); R (7090); R (7142); Plh (7292); Math (7308); Montkz (7403). — Suringar.

On all the islands observed in nearly all places visited.

Margarita. (Johnston).

Antill., Mexico, Venezuela, Equador, Peru, Buenos Ayres, Galapagos. (Gris. Fl.).

**Acacia villosa** Willd. Spec. Plant. IV (1805) 1067; Gris. Fl. 221. Matagalienja, Nigieta die Malpais, Watapaana sji-marón, Wild divi divi.

**Curaçao:** Ri (4647); Nasw (4689); Cas (4787); Mah (4860); Sc (4978); Hk (5131*e*); Hw (5560); M 7. — Aschenberg, — Suringar, — Went 1118, 1320, — Lens 820, -- Britton & Shafer 2943.

Observed only on Curaçao in the Western part and in the Western half of the Eastern part; 45 finding places noted.

Cuba, Jamaica, Mexico to Panama. (Gris. Flor.).

### 3447. **Leucaena** Benth.

**Leucaena glauca** Benth. in Hook. Journ. Bot. IV (1842) 416; Gris. Fl. 220. Toembaraboe.

Cultivated. [In Amer. trop. indigen.?] (Symb.).

### 3449. **Mimosa** Linn.

**Mimosa distachya** Cav. Ic. III. 48. t. 295. Unguis die gaatoe.

**Curaçao:** Kd (5338). — Suringar, — Went 1340.

**Aruba:** (5751). — Suringar.

Mexico. (Ind. Kew.).

### 3450. **Desmanthus** Willd.

**Desmanthus depressus** Humb. et Bonpl. ex Willd. Spec. Plant. IV (1805) 1046; Gris. Fl. 218. Montánja.

**Curaçao:** Pit (4841); Blt (4905); S (5032); Hk (5131*a*). — Aschenberg, — Suringar, — Britton & Shafer 2991.

**Aruba:** Suringar.

Florida, Antill., Texas to Peru, Galapagos. (Gris. Fl.).

**Desmanthus virgatus** Willd. Spec. IV. 2 (1806) 1047; Gris. Fl. 218.

**Curaçao:** Cas (4804); Mo (4816*e*); Hk (5080); Vat (5092); Wa<sub>3</sub> (5105); Hk (5131*e*); Bat (5206); Bat (5217); Hatot (5339); Vat (5354*d*). — Suringar.

**Aruba:** Siv (6317); Siv (6318); Mansz (6558).

**Bonaire:** Rt (7161); Fh (7245); Bact (7973*d*). — Suringar.

Margarita. (Johnston).

Bermud., Baham., Antill., (Amer. cont. trop. and subtrop., India orient.) (Symb.).

3451. **Neptunia** Lour.

**Neptunia plena** Benth. in Hook. Journ. Bot. IV (1842) 355; Gris. Fl. 218.

**Curaçao:** Si (5193).

Antill., Amer. austr., Asia trop. (introd.) (Symb.).

3454. **Prosopis** Linn.

**Prosopis juliflora** D C. Prod. vol. 2 (1825) 447; Gris. Fl. 217;

*Prosopis cumanensis* H. B. K. Nov. Gen. et Spec. vol. 6 (1823) 310. Indjoe, Koeieda, Koeiegi.

**Curaçao:** S (5026). — Aschenberg, — Suringar, — Britton & Shafer 3053.

**Aruba:** Fontk (6478). — Suringar.

**Bonaire:** Plh (7297).

On Curaçao 17 finding places noted, on Aruba 13 and on Bonaire 24; generally spread in these last two islands.

Margarita. (Johnston).

Venezuela, Mexico to Guajaquil, Jamaica. (Johnston).

3459. **Adenanthera** Linn.

**Adenanthera pavonina** Linn. Spec. (1753) 384.

Cultivated. [Asia trop.] (Symb.).

3508. **Tamarindus** Linn.

**Tamarindus indica** Linn. Spec. (1753) 34; Gris. Fl. 213. Tamarijn.

Cultivated. [Indig. veris. in Africa trop.] (Symb.).

3536. **Cassia** Linn.

**Cassia Absus** Linn. Spec. Pl. (1753) 376; Gris. Fl. 210.



**Curaçao:** Bat (5207); K (5465).

**Bonaire:** Bolko (7363).

Cosmop. trop. (Ind. Kew.).

**Cassia bicapsularis** Linn. Spec. (1753) 376; Gris Fl. 207. Broeska doesji, Tamarijn sjimarón, Wild trommelstok.

**Curaçao:** Sik<sub>3</sub> (5265); Sik<sub>3</sub> (5266). — Aschenberg, — Britton & Shafer 3089.

**Bonaire:** Gh (7311). — Suringar.

Bermud., Baham., Antill., Amer. cont. trop., Inquil. in India orient. and Madeira. (Symb.).

**Cassia nictitans** Linn. Spec. I (1753) 380; Gris. Fl. 211 (p.p.).

**Curaçao:** Cas (4799); Cas (4803); St (5054m); Wa<sub>2</sub> (5105); Bat (5233); Bat (5228); M 12. — Suringar, — Went 1338, — Britton & Shafer 2919, 2988.

**Aruba:** Siw (6326); Siw (6328a); Savk (6539). — Suringar.

**Bonaire:** R (7029); Rt (7157); Rt (7162); Fk (7334).

Margarita. (Johnston).

Baham., Antill., Amer. sept. subtrop., Mexico. (Symb.).

**Cassia obovata** Collad; Gris. Fl. 209. Senneblaar.

**Curaçao:** Sh (4969); W<sub>2</sub> (5061). — Suringar.

**Aruba:** Ok<sub>2</sub> (6215). — Suringar.

From trop. Africa. (Gris. Fl.).

**Cassia Sophera** Linn. Spec. Pl. 542. Broeska.

**Curaçao:** Vp (4745); Pe (5306); Kit (5488). — Suringar.

**Bonaire:** Slk (7312); Fk (7332a).

**Aruba:** locality unknown. — Beaujon.

In tropical countries of both hemisph. (Benth. Rev. Cassia).

### 3543. **Krameria** Loefl.

**Krameria ixina** Linn. Spec. (1762) 117; Gris. Fl. 31. Peega saaja sjimarón, Rathania.

**Curaçao:** Blt (4916); Sk (5039). — Suringar, — Britton & Shafer 3035.

**Bonaire:** Soebh (7281); Bolko (7357). — Suringar.

On Curaçao 11 finding places noted, not seen on Aruba. on Bonaire 5 finding places.

Hispaniola, St. Thomas, Antigua, Columbia. (Symb.).

St. Eustatius. (Boldingh I).

3551. **Parkinsonia** Linn.

**Parkinsonia aculeata** Linn. Spec. (1753) 375; Gris. Fl. 204.  
Boontsjistreena.

Cultivated. [Key Ins., Antill., Amer. cont. trop.] (Symb.).

3552. **Haematoxylon** Linn.

**Haematoxylon Brasiletto** Karst. Flor. Columb. II (1858—69)  
27, t. 114.

**Curaçao**: Rih (4653); V (4727); Blw (4748); Hk (5131d); Mrh  
(5625). — Suringar, — Went 1321, — Britton & Shafer 3054.

**Aruba**: Nick (6496).

**Bonaire**: Grk (7172); Joh (7202); Lagz (7468). — Suringar.

On Curaçao 66 finding places noted, on Aruba only observed in one  
place, on Bonaire in 19.

Haiti, Columbia, Guatemala, Mexico. (Symb.); St. Eustatius.  
(Boldingh).

3554. **Cercidium** Tulasne.

**Cercidium viride** Taub. in Eng. & Prantl. Natürl. Pflanzenfam.  
III. 3 (1892) 172;

*Retinophloeum viride* Karst. Fl. Columb. II (1862) 25. t. 113.

Cultivated. [Northern South America.] (Symb.).

3556. **Poinciana** Linn.

**Poinciana regia** Boj. ex Hook. Bot. Mag. (1829) tab. 2284. Flam-  
boyant.

Cultivated. [Madagascar.] (Symb.).

3559. **Caesalpinia** Linn.

**Caesalpinia ciliata** Urb. in Symbolae Antillanae II (1900) 275;  
*Guillandina Bonduc* Gris. Kar. (1857) n. 466 p. 60. Djoekoe.

**Curaçao**: Sh (4966); W<sub>2</sub> (5062). — Aschenberg, — Suringar, —  
Britton & Shafer 3020.

**Bonaire**: Suringar.

Barthélémy, Antigua, Guadeloupe, Désirade, Marie Galante,  
Martinique. (Symb.); St. Eustatius, Saba, St. Martin. (Boldingh I).

**Caesalpinia coriaria** Willd. Spec. Plant II (1799) 532;

*Lebidibia coriaria* Schlecht. in Linnaea V (1830) 193; Gris.  
Fl. 231. Divi divi, W a t a p a a n a.

**Curaçao:** Rih (4651); Sh (4967). -- Suringar, — Went 1329, — Britton & Shafer 3025.

**Aruba:** Fonth (6444). — Suringar.

**Bonaire:** Lagz (7461). — Suringar.

In each of the islands observed in all places visited.

Margarita. (Johnston).

Baham., Antill., Mexico, Venezuela, Nova Granata. (Symb.).

**Caesalpinia pulcherrina** Sw. Obs. (1791) 166; Gris. Fl. 205. Toetoeroetoe.

Cultivated. [Patria ignot.] (Symb.).

### 3561. **Peltophorum** Walp.

**Peltophorum Suringari** Urb. Symb. Ant. V (1908) 363;

*Peltophorum acutifolium* Johnst. in Proc. Bost. Soc. Nat. Hist. Flora of Margarita Island 221;

*Caesalpinia acutifolia* Johnston, Proc. Amer. Acad. Arts and Sci., vol. 40 (1905) 686. Cura hout.

**Curaçao:** Sit (5299); Wo (5451); Krt (5616). — Suringar, — Britton & Shafer 3084.

**Aruba:** (5751); Jam (6301); Bek (6435); Fontk (6479). — Suringar.

On Curaçao only observed in a few places, on Aruba 9 finding places were noted, in the Eastern part; not observed on Bonaire.

Margarita. (Johnston).

### 3602. **Sophora** Linn.

**Sophora tomentosa** Linn. Spec. (1753) 373; Gris. Fl. 203.

**Aruba:** Along the seashore. — Suringar.

**Bonaire:** Skr (7436).

In warmer countries of both hemisp. (Symb.).

### 3669. **Crotalaria** Linn.

**Crotalaria incana** Linn. Spec. (1753) 716; Gris. Fl. 180.

**Curaçao:** Bat (5227); Kit (5490). — Aschenberg, — Suringar, — Britton & Shafer.

**Aruba:** Ok<sub>2</sub> (6223). — Suringar.

**Bonaire:** R (7128). -- Suringar.

Margarita. (Johnston).

Warmer countries of both hemisp. (Symb.).

**Crotolaria retusa** Linn. Spec. (1753) 715; Gris. Fl. 179.

**Curaçao:** Suringar.

Warmer countries of both hemisph. (Symb.).

3688. **Medicago** Linn.

**Medicago sativa** Linn. Spec. (1753) 778. Alfalfa.

Cultivated. [Europa.] (Ind. Kew.).

3702. **Indigofera** Linn.

**Indigofera suffruticosa** Mill. Gard. Dict. VIII ed. (1768) n. 2;

*Indogofera anil* Linn. Mant. II (1771) 272; Gris. Fl. 181.

Jeerba die seis.

**Curaçao:** V (4722); Bah (5183); Hwk (5565a). — Suringar.

**Aruba:** Ok<sub>2</sub> (6255); Mansz (6560). — Suringar.

**Bonaire:** R (7026); Montkr (7409). — Suringar.

Spread; 25 finding places noted in all.

Margarita. (Johnston).

In tropical and warmer countries. (Johnston).

**Indigofera tinctoria** Linn.

**Curaçao:** Kd (5334).

Trop. countries of both hemisph. (Eng. und Prantl).

3709. **Dalea** Linn.

**Dalea phymatodes** Willd. Spec. 3 (1797) 1338; Jeerba die sonja.

**Curaçao:** Bah (5178); Krh C (5605); M. 1. — Britton & Shafer 3143.

Venezuela. (DC. Prodr. 2).

3718. **Tephrosia** Pers.

**Tephrosia cinerea** Pers. Syn. II (1807) 328; Gris. Fl. 182.

Mankeman seeboe.

**Curaçao:** V (4724); Cas (4791); W (4927d); A (5158); Vat (5354c). — Aschenberg, — Suringar, — Britton & Shafer 3001.

**Aruba:** Siw (6309); Siv (6328); Bez (6438). — Suringar.

**Bonaire:** R (7127); Fz (7244); (7326). — Suringar.

Spread over Curaçao, 27 finding places noted, on Aruba 3, on Bonaire 4.

Margarita. (Johnston).

Baham., Antill., Bay of Honduras, Cartagena. (Symb.).

3734. **Gliricidia** H. B. K.

**Gliricidia sepium** Steud. Nomencl. II ed. I (1841) 688. Jeerba tónka, Mataratón, Ratoneera.

**Curaçao**: Blw (4755). — Suringar, — Britton & Shafer 3132. Cultivated? [Mexico, Amer. centr., Nov. Granata.] (Symb.).

3747. **Sesbania** Scop.

**Sesbania aculeata** Poir. Encycl. VII. 128; Gris. Fl. 184.

**Curaçao**: Bat (5219). — Britton & Shafer 3120. Cosmop. trop. (Gris. Flor.).

**Sesbania grandiflora** Pers. Syn. II (1807) 316.

Cultivated. [India orient., Austral. sept.] (Symb.).

3793. **Aeschynomene** Linn.

**Aeschynomene americana** Linn. Spec. (1753) 713; Gris. Fl. 185.

**Curaçao**: M., — Suringar, — Britton & Shafer 3015. Antill., Amer. cont. trop. (Symb.).

**Aeschynomene falcata** P. DC. Prodr. II (1825) 322.

**Curaçao**: Si (5194); Bat (5215); Vat (5362); Krh (5599a). — Britton & Shafer 3041.

Brasilia, Amer. meridion. (Flor. Brasil. XV. 1).  
Bolivia. (coll. Fiebrig).

3802. **Stylosanthes** Sw.

**Stylosanthes hamata** Taubert Mon. Stylos. (Nov. 1889) 22;

*Stylosanthes procumbens* Sw. Prodr. (1788) 108; Gris. Fl. 188. Pienda sjimarón.

**Curaçao**: Bh (4767); S (5036); Vat (5097); Bat (5210a). — Britton & Shafer 3013.

**Aruba**: Siv (6313). — Suringar.

**Bonaire**: Fh (7246); Bolko (7364).

Baham., Antill., Amer. sept., Mexico, Amer. centr., Nova Granata. (Symb.).

3803. **Arachis** Linn.

**Arachis hypogaea** Linn. Spec. (1753) 741; Gris. Fl. 189. Pienda.

Cultivated. [Patria ignot.] (Symb.).

3807. **Desmodium** Desv.

**Desmodium molle** P. DC. Prodr. II (1825) 332; Gris. Fl. 188.  
Boontsji kabaaï, Foengfoeng, Goorda kapaa.

**Curaçao**: Cas (4796); Kit (5491). — Aschenberg, — Suringar, —  
Lens 818, — Britton & Shafer 3099.

**Bonaire**: Rt (7160).

Antill., Amer. centr. and austr. (Symb.).

**Desmodium spirale** P. DC. Prodr. II (1825) 332; Gris. Fl. 188.

**Curaçao**: Kit (5496); M 18; M 13. — Suringar, — Britton &  
Shafer 2909.

**Aruba**: Mirh (6449); Mirh (6452*b*); Mirh (6453*i*); Nick (6490). —  
Suringar.

**Bonaire**: R (7027); Rh (7078).

Margarita. (Johnston).

Antill., Amer. cont. trop., Afr. trop., Ind. orient. and Ins.  
Pacif. (Symb.).

**Desmodium supinum** P. DC. Prodr. II (1825) 332;

*Desmodium incanum* P. DC. Prodr. II (1825) 332; Gris. Fl. 186.

**Curaçao**: Zt (5388).

Margarita. (Johnston).

Baham., Antill., Amer. cont. trop., Afr. trop. (Symb.).

3842. **Geoffraea** Linn.

**Geoffraea superba** H. et B. Pl. Aequin. II 69. t. 100. Paaloe  
die takki, Takki takki.

**Curaçao**: Cas (4808); Pit (4842); Sik<sub>2</sub> (5202*a*). — Suringar.

**Bonaire**: R (7141). — Suringar.

On Curaçao 9 finding places noted, on Bonaire 5; not seen on Aruba.

Amer. austr. (Ind. Kew.).

3856. **Abrus** Linn.

**Abrus precatorius** Linn. Syst. XII ed. II (1767) 472; Gris. Fl.  
190. Makoeraa.

**Curaçao**: Be (5392). — Suringar.

Margarita. (Johnston).

Baham., Antill., Amer. cont. calid., Afr., Asia calid. (Symb.).

3857. **Clitoria** Linn.

**Clitoria ternatea** Linn. Spec. (1753) 753. Blomtsji die koka-  
liesji, Boontsji palooma, Jamaani tobaako.

Cultivated. [Afr. orient.] (Symb.).

3870. **Erythrina** Linn.

**Erythrina velutina** Willd. in Ges. Naturf. Freunde. Neue Schr. III (1801) 426; Gris. Fl. 199. Boontji die paaloe, Boontsjikarta.

**Curaçao**: Bh (4773). — Aschenberg, — Suringar, — Britton & Shafer.

**Aruba**: Fonth (6465). — Suringar.

Jamaica, Venezuela to Brasil. (Gris. Fl.).

3882. **Galactia** Adans.

**Galactia rubra** Urb. in Symb. Antill. II (1900) 309;

*Galactia longiflora* Gris. Flor. W. I. (1860) p. 194 (p.p.). (Symb.).

**Curaçao**: Sh (4975).

**Bonaire**: Fk (7331).

Antill. (Symb.).

3892. **Cajanus** P. D C.

**Cajanus indicus** Spreng. Syst. III (1826) 248; Gris. Fl. 191. Wándoe.

Cultivated. [Warmer countries of both hemisph.] (Symb.).

3897. **Rhynchosia** Lour.

**Rhynchosia minima** P. D C. Prodr. II (1825) 385; Gris. Fl. 190. Jeerba ragadiesji.

**Curaçao**: Vw (4714); Cas (4794); Cas (4801); Wa<sub>3</sub> (5105f); Kit (5535). — Aschenberg, — Suringar, — Britton & Shafer 2977.

**Aruba**: L (6254). — Suringar.

**Bonaire**: R (7104); Rt (7152a). — Suringar.

Margarita. (Johnston).

Warmer countries of both hemisph. (Symb.).

3901. **Phaseolus** Linn.

**Phaseolus longepedunculatus** Mart. ex Benth. in Ann. Wien. Mus. II (1838) 141.

**Curaçao**: Hk (5081); Kit (5494); Kit (5498); M 20. — Went 1346.

**Aruba**: Siv (6328); Nick (6489). — Suringar.

**Bonaire**: Rt (7149); Rt (7156).

Brasilia. (Ind. Kew.).

**Phaseolus lunatus** Linn. Spec. (1753) 724.

Cultivated. [All trop. countries.] (Symb.).

**Phaseolus vulgaris** Linn. Spec. (1753) 723.

Cultivated. [Everywhere] (Ind. Kew.).

3905. **Vigna** Savi.

**Vigna unguiculata** Walp. Rep. I (1842) 779.

Cultivated. [Afr. trop.] (Symb.).

3909. **Lablab** Adans.

**Lablab vulgaris** Savi Diss. (1821) 19 t. 19 f. 8.

Cultivated. [Afr. trop.?] (Symb.).

### 134. Erythroxylaceae.

3956. **Erythroxylum** Linn.

**Erythroxylum havanense** Jacq. Enum. Pl. Carib. (1760) 21;

*Erythroxylum obtusum* D C. Prodr. I (1824) 574; Gris. Fl. 113.  
p.p. (Symb.).

**Curaçao:** C (5008); Hh (5125).

Margarita. (Johnston).

Cuba, Isla de Pinos. (Symb.); St. Eustatius, Saba, St. Martin.  
(Boldingh I); Dominica, Trinidad, Bahia, Guiana. (Johnston).

### 135. Zygophyllaceae.

3968. **Guaiaacum** Linn.

**Guaiaacum officinale** Linn. Spec. (1753) 381; Gris. Fl. 134.

Wajakaa.

**Curaçao:** Mah (4856). — Suringar, — Britton & Shafer 3023.

**Aruba:** Ajw (6345). — Suringar.

**Bonaire:** Joh (7216). — Suringar.

Observed on Curaçao especially in the Western part, 19 finding places,  
on Aruba 7, on Bonaire 4.

Margarita. (Johnston).

Baham., Antill., Amer. austr. (Symb.).

**Guaiaacum sanctum** Linn. Spec. (1753) 382; Gris. Fl. 134.

Beera, Boeloebarie, Wajakaa maatsjoe, Wajakaa  
sjimarón.



**Curaçao:** Hk (5073); Hk (5076); Kd (5332); Mrh (5623).

**Aruba:** Bek (6431); Savk (6547).

**Bonaire:** Soebh (7257). — Suringar.

On Curaçao 6 finding places noted, on Aruba 3, on Bonaire 3.

Florida austr., Key, Baham., Portorico, Cuba, Hispaniola. (Symb.).

### 3978. *Tribulus* Linn.

***Tribulus terrestris*** Linn. Spec. (1753) 387, var. ***cistoides*** (L.) Olive, Fl. trop. Afr. vol. I (1868) 284; (Johnston);

*Tribulus cistoides* Linn. Spec. (1753) 387; Gris. Fl. 134. Angglo.

**Curaçao:** Rud (4606); Mo (4816d). — Suringar, — Went 1104, — Lens 807, — Britton & Shafer 3077.

**Aruba:** Siv (6320). — Suringar.

Margarita. (Johnston).

Trop. countries of both hemisph. (Symb.).

### 3979. *Kallstroemia* Scop.<sup>1)</sup>

***Kallstroemia caribaea*** Rydb. in Britton & Brown, an Ill. Fl. U. S. Sec. Edition.

**Curaçao:** Mo (4814).

**Bonaire:** Rt (7163).

Antill.

***Kallstroemia curta*** Rydb. sp. nov. (in manuscr.)

A diffuse, branched annual; stems about 1 m. long, slender, prostrate, soon straw-coloured, sparingly hirsute; stipules small, subulate, about 2 mm. long, hirsute; leaves short, 1—2 cm. long; leaflets mostly 3 pairs, or on some of the branches only 2 pairs, obliquely oval, 3—10 mm. long, mucronate, denticulate, yellowish-green, glabrate above, hirsute beneath, the hairs in age with pustulate bases; peduncles 5 mm. long or less; sepals subulate, about 3 mm. long; petals not seen; fruit strigose, body 2—3 mm. high; beak about 1 mm., truncate conic, broader than high; nutlets when ripe dark-brown, with small, but rather acute tubercles on the back, strongly reticulate on the faces, with rather large and deep faveoles.

The fruit of this species resembles most that of *Kallstroemia brachystylis* Vail. of Southwestern United States and Northern Mexico, but the beak is still shorter and thicker, the tubercles smaller but rather more acute and

<sup>1)</sup> Dr. Rydberg has named my *Kallstroemia* species and was so kind as to give me his description of *K. curta* n. sp.

the reticulations stronger. It is also characterized by its short leaves, few, small and crowded leaflets, short peduncles, and hairs with pustulate bases. These characters and the short beak separate it from the two other West Indian species, viz., *K. maxima* (L.) T. & G. and *K. caribaea* Rydb.

**Curaçao:** Rocky coastal hill, St. Joris Bay, March 20—27, 1913, Britton & Shafer 3096; Boldingh: near Mahoema, 4780.

**Aruba:** Boldingh: court of Sivi Sivi 6311.

### 137. Rutaceae.

#### 3991. *Fagara* Linn.

***Fagara flava*** Kr. et Urb. in Engl. Jahrb. XXI (1896) 571. Kalabarie.

**Bonaire:** (7324); (7328); Bonk(7487); Bonk (7494); Bonk (7495). — Suringar.

Bermud., Key Ins., Baham., Antill. (Symb.).

***Fagara monophylla*** Lam. Ill. 1 (1791) p. 334 n. 1643;

*Xanthoxylum ochroxylum* P. D C. Prodr. I (1824) 725; Gris. Fl. 138. Bossoea, Kaubaati.

**Curaçao:** Hk (5078); H<sub>2</sub> (5118); Sih (5189); Sik<sub>2</sub> (5263); Dh (5634).

**Bonaire:** Rk (7048); Soebh (7266).

Besides the finding places mentioned, still 4 noted on Bonaire; not seen on Aruba.

Antill., Venezuela, Nova Granata. (Symb.).

#### 4047. *Pilocarpus* Vahl.

***Pilocarpus racemosus*** Vahl Eclog. I (1796) p. 29 t. 10; Gris. Fl. 135. Boeraatsji.

**Aruba:** Fontk (6481).

Antill. (Symb.).

#### 4084. *Amyris* Linn.

***Amyris simplicifolia*** Karst. Flor. Columb. II (1858—69) p. 109. t. 158 f. 1;

*Amyris maritima* Gris. Flor. (1859) p. 174 (p.p.) (Urb. Engl. Jahrb. XXI. p. 609). Kauwbaati.

**Curaçao:** Beh (5523). — Suringar.

**Bonaire:** Montkr (7390).

Margarita? (Johnston).

Trinidad, Venezuela. (Urb. Engl. Jahrb. XXI).

4090. **Murraya** Linn.

**Murraya exotica** Linn. Mant. II (1771) 563.

Cultivated. [Ind. in Asia austro-orient., Austr. sept., Polynesie.].  
(Symb.).

4094. **Triphasia** Lour.

**Triphasia trifoliata** P. D C. Prodr. I (1824) 536. Lamoentsji  
die Surinaam, Lamoentsji sjimarón.

Cultivated. [Ind. in India orient.] (Symb.).

4100. **Citrus** Linn.

**Citrus aurantium** Linn. Spec. (1753) 782.

Cultivated. [Asia austr.] (Symb.).

**Citrus bigaradia** Loisel. in Duham. Arb. ed. nov. VII (1819) 99.

Cultivated. (Symb.).

**Citrus decumana** Linn Syst. XII ed. II (1767) 508. Pompelmoes.

Cultivated. (Symb.).

**Citrus limetta** Risso in Ann. Mus. Par. XX (1813) 195.

Cultivated. (Symb.).

**Citrus limonum** Risso in Ann. Mus. Par. XX (1813) 201.

Lamoentsji.

Cultivated. (Symb.).

**Citrus medica** Linn. Spec. (1753) 782. Citroen.

Cultivated. [Asia austr.] (Symb.).

### 138. Simarubaceae.

4106. **Suriana** Linn.

**Suriana maritima** Linn. Spec. (1753) 284; Gris. Fl. 58.

**Curaçao**: Suringar, — Britton & Shafer 2931.

**Aruba**: Mankr (6286). — Suringar.

**Bonaire**: R (7182). — Suringar.

Margarita. (Johnston).

Trop. countries of both hemisph. (Symb.).

**139. Burseraceae.**4150. **Bursera** Linn.

**Bursera bonairensis** Boldingb (n. sp.) ramulis crassiusculis, rufescentibus, glabris; foliis apice ramorum congestis, pinnatis 3—5 jugis, petiolo anguloso, foliolis distincte petiolatis, facile deciduis, oblongo-ovatis, basi parum obliqua, apice longius acuminatis, ramis floriferis ramosis multifloris, glabris; floribus ignotis; fructibus trigonis. Foliorum petiolus a basi usque ad jugum infimum usque 10 cm. longus, interstitia inter foliola 3—7 cm. longa, petioluli 0,3—0,5 cm. longi; foliola adulta 14 cm. longitudine, 3—8 cm. latitudine assequentia.

Fructus trigonus, valvis circ. 1,2 cm. longus, 0,7 cm. diametens, pyrena loculo uno completo.

Sieja korraa. Plate III.

**Curaçao:** Suringar.

**Aruba:** Hills near Ajo (6345); Calcareous hills near Savaneta (6545).

**Bonaire:** Rincon (7062); Slope of Macutacao (7126) (type); Calcareous plateau of Bolivia (7273). — Suringar.

On Curaçao 14 finding places noted, on Aruba 5, on Bonaire 9.

**Bursera simaruba** Sarg. Gard. and For. III (1890) 260;

*Bursera gummifera* Jacq. Sel. (1763) 94 t. 65; Gris. Fl. 173. Paaloe sieja doesji, Paaloe sieja maatsjoe, Sieja blanko.

**Curaçao:** Nask (4690); Vw (4705); Vw (4715); Blw (4751); H<sub>2</sub> (5121b); Beh (5526). — Britton & Shafer 3103.

**Aruba:** Suph (6391); Nick (6492).

Widely spread on Curaçao, 34 finding places noted there, on Aruba 9, on Bonaire 14.

Margarita. (Johnston).

Florida, Key Ins., Baham., Antill., from Mexico to Nova Granata and Venezuela. (Symb.).

**Bursera tomentosa** Triana et Planchon in Prodr. Fl. Novae Granatensis. Ann. Sc. Nat. Ser. V. XIV (1872) 304;

*Elaphrium Jacquianianum* H. B. K. Nov. Gen. et Sp. VII. 23. t 613. Takamahak.

**Curaçao;** Nask (4695). — Suringar, — Britton & Shafer 3146.

**Aruba:** Ok<sub>2</sub> (6240); Hoh (6367).

**Bonaire:** R (7110). — Suringar.

Very general; on Curaçao 36 finding places noted, on Aruba 7, on Bonaire 16. Nova Granata, Venezuela. (Triana et Planch.).

**140. Meliaceae.**4164. **Swietenia** Jacq.

**Swietenia mahagoni** Jacq. Enum. (1760) 20; Gris. Fl. 131. Mahók.  
Cultivated. [Key Ins., Baham., Antill., Mexico, Amer. centr.,  
Peru.] (Symb.).

4175. **Melia** Linn.

**Melia azedarach** Linn. Spec. (1753) 384.  
Cultivated. [Warmer countries of both hemisph.] (Symb.).

4195. **Trichilia** Linn.

**Trichilia trifolia** Linn. Syst. Ed. X. 1020. Ceraasji maatsjoe,  
Sjimaroeekoe maatsjoe.

**Curaçao:** Vw (4699); Bh (4759c); Wd (4940); Pk (5479). — Surin-  
gar, — Britton & Shafer 2911.

Observed on Curaçao only; 34 finding places noted, nearly always out-  
side the lime region.

Venezuela, Cumana. (C. DC. Monogr. Ph. I).

**141. Malpighiaceae.**4251. **Malpighia** Linn.

**Malpighia glabra** Linn. Spec. (1753) 425; Gris. Fl. 116. Sjima-  
roekoe.

**Curaçao:** Zt (5389); Be (5393); Be (5394); Be (5394). — Suringar.

**Bonaire:** R (7383); Fh (7335).

Margarita. (Johnston).

Tropical America. (Johnston).

**Malpighia punicifolia** Linn. Spec. (1762) 609; Gris. Fl. 116.  
Sjimaroeekoe, Sjimaroeekoe maatsjoe.

**Curaçao:** Vw (4704); Vw (4711); Bh (4757); Mh (4874); Seh  
(5692). — Aschenberg, — Suringar.

**Aruba:** Ok<sub>2</sub> (6230); Savh (6524); Savk (6551).

**Bonaire:** R (7106); Joh (7210); Joh (7213); Savk (7344). —  
Suringar.

Generally spread; on Curaçao 31 finding places noted, on Aruba 16, on  
Bonaire 17.

Margarita. (Johnston).

In Northern South America. (Johnston).

4252. **Bunchosia** L. Cl. Rich.

**Bunchosia nitida** L. Cl. Rich. ap. Jussieu in Ann. Mus. Par. XVIII (1811) 481. Sjimaroekoe kaasjoe.

Curaçao: Sik<sub>2</sub> (5244); Pew (5275); Pew (5276); K (5460).

Antill. (Symb.); Surinam. (Pulle).

4255. **Byrsonima** L. Cl. Rich.

**Byrsonima crassifolia** H. B. K. Nov. Gen. V (1821) 149; Gris. Fl. 114.

Curaçao: W (4925); Beh (5517).

Antill., Amer. austr. sept. (Symb.).

## 145. Polygalaceae.

4273. **Polygala** Linn.

**Polygala angustifolia** H. B. K. Nov. Gen. et Sp. V. 405, t. 511; Gris Fl. 28.

Curaçao: Bat (5209); Krh (5599). — Suringar, — Britton & Schafer 2917.

Aruba: Mirh (6453).

Bonaire: R (7025); Prw (7348).

Cuba and Mexico to Brasil. (Gris. Fl.).

## 147. Euphorbiaceae.

4299. **Phyllanthus** Linn.

**Phyllanthus Euwensii** Boldingh. (n. sp.) ramulis glabris in sicco bruneis, teretibus vel crassiusculis, plus minus tortuosis; stipulis aegre discernendis 0,5 mm. longis; foliis 2—4 mm. longe petiolatis, ellipticis usque lanceolatis, ad basin angustatis, apice acutatis vel obtusiusculis, 2,5—5,5 cm. longis 1,5—4 cm. latis, coriaceis, atroviridibus, supra lucentibus; fasciculis 2—7 floris ex axillis squamarum prodeuntibus in racemum elongatum collectis; pedicellis flor. masc. 1—3 mm. longis; sepalis 1 mm. longis, disci glandulis 6, planis, areolatis; staminibus 3 plane in columnam coalitis; pedicellis flor. fem. 1—3 cm. longis, sepalis 1 mm. longis, acutis; disco breviter cupuliformi, margine crenulato, basin ovarii

cingente; stylis in columnam ovario dimidio longiorem connatis.

Frutex; folia nervis prominulis; racemus masculinus usque ad 8 cm. longus; flores fasciculatae; racemus femininus usque ad 12 cm. longus; flores solitariae; fructus usque 8 mm. in diam.

Karkidaaki, Lokki-lokki. Plate IV.

**Curaçao:** Calcareous hills near Mahoema (4822); Slope of the Hieronymusberg (5121a); Road near Antonyberg (5141); Road near Wacao (5252); Calcareous soil near San Pedro (5279) (type); Calcareous hills and plateau Kleine Berg (5456). — Went, — Britton & Shafer 3108.

**Aruba:** Hills near Fontein (6442).

**Bonaire:** Rincon (7167); Road from Slagbaai to the Brandaris.

On Curaçao 25 finding places noted outside the lime region, 10 in it; on Aruba 19 finding places; on Bonaire 11.

**Phyllanthus niruri** Linn. Spec. (1753) 981; Gris. Fl. 34.

**Curaçao:** (6545).

Margarita. (Johnston).

In almost all warmer countries of both hemisph. (Symb.).

**Phyllanthus polycladus** Urb. Symb. I (1899) 333. var.  $\gamma$  **curassavicus** Urb. Symb. V (1908) 384.

**Curaçao:** Pek (5283); Hk (5313). — Suringar, — Britton & Shafer 2948.

**Bonaire:** Rk (7052); Rk (7053); Tolcz (7278); Zkr (7388).

In Curaçao on the higher calcareous table-lands 3 finding places were noted, on Bonaire 10, mostly on the higher calcareous table-lands; not observed on Aruba.

Ph. polycladus: Portorico, Guadeloupe. (Symb.).

#### 4348. **Croton** Linn.

**Croton curassavicus** Boldingh. (n. sp.) monoecus, ramis, petiolis, foliis subtus, pedunculis pilis patentibus obsolete villosis; foliis 0,5—3,5 cm. longe petiolatis, ovato cordatis, apice acutis, margine grossodentatis, 2,5—8 cm. longis 1,5—5 cm. latis, supra glabratiss. vel minute villosis; inflorescentibus cr. 5 cm. longis, inferne femineis, superne masculis; floribus solitariis, pedicellis 0,1 cm. longis; alabastris masculis 0,2—0,3 cm. longis; staminibus cr. 8—10; sepalis floribus femineis lanceolatis; stylis fere usque ad basin quadripartitis, ramis filiformibus; capsulis globulosis.

Frutex 0,1—0,5 m. altus. Folia petiolis subteretibus, glandulis basalibus

minutissimis, nervis lateralibus utroque latere 3—8 abeuntibus, chartacea, supra mox glabrata, pilis subtus obsolete villosis.

Inflorescentiae in apice ramorum et in axillis foliorum multiflorae, usque ad insertionem floriferae, flores solitarii. Flores masculi: sepala 0,25 cm. longa, 0,1 cm. lata, apice ciliata. Petala 0,25 cm. longa, 0,1 cm. lata, apice obsolete ciliata.

Disci glandulae crassiusculi. Filamenta 0,2 cm. longa; antherae 1 cm. longae. Flores feminei: sepala usque 0,5 cm. longa, 0,2 cm. lata, glandulosa. Petala non observata. Discus carnosus, quinque glandulis

Styli 0,5 cm. longi, ramis 4, 3—4 cm. longis. Capsulae 0,4—0,5 cm. longae. Semina 0,4 cm. longa, brunea.

Plate V.

**Curaçao:** Calcareous hills to the north of the road from Westpunt to Savonet (4955); Hills near Barber (5179) (type.); Hills near Choloma (5417, 5418).

**Croton flavens** Linn. Syst. X ed. II (1759) 1276; Gris. Fl. 38. Wilde salie.

**Curaçao:** Rih (4648); Mok (4826); H<sub>2</sub> (5121e); Hk (5131i); Pk (5475). — Aschenberg, — Suringar, — Went 1114, — Lens 839, — Britton & Shafer 2954.

**Aruba:** (6211); How (6359). — Suringar.

**Bonaire:** R (7087); Fk (7340). — Suringar.

Occurs in all the islands in nearly all the places visited.

Margarita. (Johnston).

Hispaniola, Portorico, St. Thomas, St. Jan. (Symb.); St. Eustatius, Saba, St. Martin. (Boldingh I); Baham. (Herb. Leiden).

**Croton glandulosus** Linn. Syst. X ed. II (1759) 1275; Gris. Fl. 41. Jeerba kareeta.

**Curaçao:** Bah (5175); Bah (5177); Wo (5446); Pk (5482); Hwk (5566); Krh C (5606); Dh (5627); (5733).

**Bonaire:** Montkr (7392); Montkr (7410).

Margarita. (Johnston).

Antill., Amer. cont. (Symb.).

**Croton lobatus** Linn. Spec. (1753) 1005; Gris Fl. 42. Jeerba kraabo.

**Curaçao:** Nasw (4685). — Suringar, — Britton & Shafer 3006.

**Aruba:** Fontt (6475g). — Suringar.

**Bonaire:** Suringar.

Margarita. (Johnston).

Antill., Amer. cont. trop. (Symb.).



**Croton niveus** Jacq. Enum. (1760) 32; Gris. Fl. 40. Barra blanko, Kivieti, Loembra blanko.

**Curaçao:** Vd (4740); C (4993); H<sub>2</sub> (5122); Sik<sub>2</sub> (5201); Kd (5333). — Aschenberg, — Suringar, — Britton & Shafer 3140.

**Aruba:** Bakk (6341); Hoh (6364); Mirh (6451).

**Bonaire:** Joh (7206); Soebh (7267); Brw (7317).

Occurs in Curaçao especially in the Western part, 12 finding places noted; on Aruba 8; on Bonaire 5.

Margarita. (Johnston).

Jamaica, Dominica, Columbia. (Johnston).

**Croton ovalifolius** Vahl in West. Bidr. Ste. Croix (1793) 307; Gris Fl. 41. Jeerba die seeroe, Jeerba tsjoebaatoe.

**Curaçao:** Cas (4788); Mok (4820); S (5035); Pk (5480); Kit (5536). — Suringar, — Went 1357, — Britton & Shafer 3070.

**Aruba:** Bakk (6340); Ajh (6349); Ajw (6354). — Suringar.

**Bonaire:** R (7102); PRw (7352). — Suringar.

Spread; 36 finding places noted.

Margarita. (Johnston).

West Indies and Venezuela. (Johnston).

#### 4360. **Argithamnia** Sw.

**Argithamnia candicans** Sw. Prodr. (1788) 39; Gris. Fl. 44.

**Curaçao:** Wa<sub>3</sub> (5105e); Hk (5131k). — Suringar, — Britton & Shafer 2963.

**Aruba:** Jabh (6274); Bakk (6334); Ajh (6350); Fontt (6475e); Nick (6495b). — Suringar.

Margarita. (Johnston).

West Indies and Caribbean Islands. (Johnston).

#### 4374. **Bernardia** Adans.

**Bernardia corensis** Müll.-Arg. in Linnaea XXXIV (1865, 66) 173; *Polyboea corensis* Klotzsch in Endl. Suppl. IV. III (1850) 88; Gris. Fl. 46.

**Curaçao:** W (4927h); Wo (4931); C (5022).

**Bonaire:** Bolko (7373); Zkr (7386).

Antill. (Herb. Krug et Urban).

#### 4397. **Adelia** Linn.

**Adelia ricinella** Linn. Syst. X ed. II (1759) 1298; Gris. Fl. 45.

**Curaçao:** Mk (4891); W (4925); C (4989); A (5161); Hk (5420); Beh (5510); Beh (5512); Mrh<sub>2</sub> (5618).

Margarita. (Johnston).

Cuba, Jamaica, Hispaniola, Portorico, St. Thomas, St. Jan. (Symb.); St. Martin, St. Croix. (Boldingh I).

#### 4407. **Acalypha** Linn.

**Acalypha cuspidata** Müll.-Arg. in D.C. Prodr. XV. 2 p. 858. v. aff.

**Curaçao:** Vd (4739); Wo (4934); Kk (5409); Beh (5534).

**Aruba:** Ajh (6347); Hoh (6368).

**Bonaire:** Macb (7121); Joh (7211).

Antill., Brasilia. (D.C. Prodr. XV).

**Acalypha Poiretii** Spreng Syst. III (1826) 879.

**Curaçao:** W (4927*b*); Hatot (5341); Krk (5591*a*). — Aschenberg, — Suringar, — Britton & Shafer 2955.

**Aruba:** Bek (6429); Mirh (6445); Savw (6519).

**Bonaire:** Plah (7295).

St. Martin, Anguilla. (Boldingh I); St. Thomas. (Herb. Krug et Urban).

#### 4422. **Dalechampia** Linn.

**Dalechampia scandens** Linn. Spec. (1753) 1054; Gris. Fl. 51. Treesdeede.

**Curaçao:** W<sub>2</sub> (5064); Sk (4974).

**Bonaire:** R (7112).

Antill., Amer. cont. trop., (Afr. trop. and India or.) (Symb.).

#### 4424. **Ricinus** Linn.

**Ricinus communis** Linn. Spec. (1753) 1007; Gris. Fl. 37. Karpata.

Cultivated. [Indig. veris. in Africa.] (Symb.).

#### 4433. **Jatropha** Linn.

**Jatropha curcas** Linn. Spec. (1753) 1006; Gris. Fl. 36. Schijtnoot. Cultated. [Bermud., Antill., Amer. cont. trop.] (Symb.).

**Jatropha gossypifolia** Linn. Spec. (1753) 1006; Gris. Fl. 36. Flaira.

**Curaçao:** Rih (4649). — Suringar, — Lens 801, — Britton & Shafer.

**Aruba:** Ok<sub>2</sub> (6221). — Suringar.

**Bonaire:** R (7166).

Generally spread; on Curaçao 33 spots noted, on Aruba 15, on Bonaire 11.

Margarita. (Johnston).

Key Ins., Baham., Antill., Amer. cont. trop., Afr. occ. (Symb.).

**Jatropha multifida** Linn. Spec. (1753) 1000.

Cultivated. [Amer. cont. trop.] (Symb.).

**Jatropha urens** Linn. Spec. (1753) 1007. Bringga moosa.

**Curaçao:** Mok (4829); Sh (4971). — Britton & Shafer 3091.

**Aruba:** Hoh (6369). — Suringar.

**Bonaire:** Karh (7302).

On Curaçao especially frequent in the mountainous part of the Western half; 19 finding places noted; on Aruba generally spread. 11 spots noted; on Bonaire found in one place only, but there in great numbers.

Margarita. (Johnston).

Common in American tropics. (Johnston).

#### 4444. **Manihot** Adans.

**Manihot carthaginensis** Müll.-Arg. in D C. Prodr. XV. 2 (1866) 1073. Bittere cassave, Cassave die moondi, Marihoeri, Yucca amaara.

**Bonaire:** Fk (7332); Skr (7430).

Amer. trop. centr. and austr. (Pax. Pflanzenr. IV. 147. II.).

**Manihot utilissima** Pohl. Plant. Bras. I (1827) p. 32 t. 24.

Cultivated. [Amer. cont. trop.] (Symb.).

#### 4454. **Codiaeum** A. Juss.

**Codiaeum variegatum** Bl. Bijdr. XII (1825) 606.

Cultivated. [Ins. Sundaic.] (Symb.).

#### 4468. **Hippomane** Linn.

**Hippomane mancinella** Linn. Spec. (1753) 1191; Gris. Fl. 50. Manzalienja.

**Curaçao:** Mo (4812). — Aschenberg, — Suringar, — Britton & Shafer 2981.

**Aruba:** Daz (6398).

**Bonaire:** Grkz (7175). — Suringar.

On Curaçao also occurring in the interior, 33 spots noted there; on Aruba 2; on Bonaire 4.

Margarita. (Johnston).

Florida austr., Baham., Antill., from Mexico to Venezuela. (Symb.).

4493. **Hura** Linn.

**Hura crepitans** Linn. Spec. (1753) 1008; Gris. Fl. 50. Zandkokerboom.

Cultivated. [Baham., Antill., Amer. cont. trop.] (Symb.).

4498. **Euphorbia** Linn. Jeerba die leetsji.

**Euphorbia adenoptera** Bertol. Misc. Bot. III. 20, t. 23, vel affin.

**Curaçao:** Mt (4862a); St (5056); Wa<sub>3</sub> (5103); H<sub>2</sub> (5121); Jt (5424); Jt (5425). — Britton & Shafer 2920, 2950, 3141.

Am. trop. (Ind. Kew.).

**Euphorbia buxifolia** Lam. Encycl. II (1786) 421; Gris. Fl. 53;

*Euphorbia litoralis* H. B. K. Nov. Gen. II (1817) 54.

**Curaçao:** Suringar, -- Britton & Shafer 2933.

**Aruba:** Ser (6511); Mansz (6554). — Suringar.

**Bonaire:** Okz (7237). — Suringar.

Margarita. (Johnston).

Bermud., Florida, Key Ins., Baham., Antill., Yucatan, Honduras, Venezuela, Brasilia. (Symb.).

**Euphorbia cotinifolia** Linn. Spec. (1753) 453; Gris. Fl. 52. Manzalienja boobo.

**Curaçao:** St (5051); Sik<sub>3</sub> (5260); Wo (5436). — Suringar.

**Bonaire:** Montkr (7402); Montkr (7415).

Trinidad, Venezuela, Nova Granata, Guiana. (Gris. Flor.).

**Euphorbia heterophylla** Linn. Spec. (1753) 453; Gris. Fl. 54.

Cultivated. [Baham., Antill., Amer. cont.] (Symb.).

**Euphorbia hypericifolia** Linn. Spec. (1753) 454; Gris. Fl. 54.

**Curaçao:** Suringar.

**Aruba:** Suringar.

Margarita. (Johnston).

Bermudas, Key Ins., Baham., Antill., from Mexico to Venezuela and Guiana. (Symb.).

**Euphorbia hyssopifolia** Linn. Syst. X ed. II (1759) 1048;  
*Euphorbia hypericifolia* var. *hyssopifolia* Griseb. Flor. (1859) 54.  
**Curaçao:** V (4730); Mo (4816*a*); St (5054*m*); Wa<sub>3</sub> (5101); Bat  
 (5222); Pez (5290); Hk (5321); Ent (5434*c*); Krh C (5594); M 8; M 19. —  
 Suringar, — Went 1351, — Lens S26, — Britton & Shafer 2996, 3098.  
**Aruba:** Savh (6526).  
**Bonaire:** Rt (7150); Bact (7473*e*).  
 Antill., Amer. cont. (Symb.).

**Euphorbia pilulifera** Linn. Spec. (1753) 454; Gris. Fl. 54.  
**Curaçao:** Vat (5368). — Suringar, — Lens S21.  
**Aruba:** Siv (6315*a*). — Suringar.  
 Margarita. (Johnston).  
 In warmer countries of both hemisph. (Symb.).

**Euphorbia thymifolia** Linn. Spec. (1753) 454, vel affin.;  
*Euphorbia maculata* var. *thymifolia* Griseb. Flor. (1859) 53.  
**Curaçao:** St (5055); Wa<sub>3</sub> (5101); Hk (5131*f*); Pek (5284); Hk  
 (5317); Pik (5325); Kk (5405); Pk (5469). — Suringar, — Went  
 1107, — Britton & Shafer 2953.  
**Aruba:** (5749); Ok<sub>2</sub> (6222); Mankz (6283); Back (6337); Camk  
 (6381); Beh (6428*c*); Bez (6437); Fontz (6470); Serk (6483); Savw  
 (6514). — Suringar.  
**Bonaire:** Rk (7044); R (7179); Okz (7238); Grkz (7174*b*); Fz  
 (7243); Soebh (7260); Bolko (7368); Skr (7437); Lagw (7453); Zoutz  
 (7497). — Suringar.

Generally spread; 70 spots noted.

Margarita. (Johnston).

Tropical countries of both hemisph. (Symb.).

#### 4501. **Pedilanthus** Neck.

**Pedilanthus tithymaloides** Poit. in Ann. Mus. Par. XIX (1812)  
 390. t. 19.

Cultivated. [Florida, Baham., Antill., Venezuela.] (Symb.).

### 153. **Anacardiaceae.**

#### 4545. **Mangifera** Linn.

**Mangifera indica** Linn. Spec. (1753) 200; Gris. Fl. 176. Mango.  
 Cultivated. [Asia austro-orient.] (Symb.).

4546. **Anacardium** Linn.

**Anacardium occidentale** Linn. Spec. (1753) 383; Gris. Fl. 176. Kaasjoe.

Cultivated. [In all warmer countries of America.] (Engler 1885).

4552. **Spondias** Linn.

**Spondias Mombin** Linn. Spec. (1753) 371;

*Spondias lutea* Linn. Spec. (1762) 613; Gris. Fl. 175. Hooba.

Seems to occur wild in non-calcareous regions on Curaçao; 8 spots noted.

Cultivated. [Tropical countries of both hemisph.] (Symb.).

**Spondias purpurea** Linn. Spec. (1762) 613; Gris. Fl. 175. Makka pruum.

Cultivated. [Antill., Mexico, Peru, Nova Granata.] (Engler 1883).

4591. **Metopium** Engl.

**Metopium Brownei** Urb. in Symb. Antill. V (1908) 402;

*Rhus metopium* Linn. Syst. X ed. II (1759) 964; Gris. Fl. 175. Manzalienja boobo.

**Curaçao:** Sik<sub>2</sub> (5203*d*); Hk (5311); R (5331); K (5458). — Britton & Shafer 3080.

**Bonaire:** Soebh (7268); Soebh (7283). — Suringar.

Occurs in Curaçao especially on high calcareous table-lands, 8 spots noted; not observed on Aruba; on Bonaire 9 places, mostly on lime.

Antill., Yucatan. (Symb.).

158. **Celastraceae.**4626. **Maytenus** Molina.

**Maytenus Versluysii** Boldingh (n. sp.) ramulis hornotinis angulatis; foliis 3—6 mm. longe petiolatis, obovatis vel ellipticis, basi acutis et in petiolum protractis, apice rotundatis, 4—7 cm. longis, 1,5—3 cm. latis, nervo medio supra prominente, lateralibus prominulis, subtus paullo magis prominentibus, reticulato-anastomosantibus, coriaceis, margine paullo serratis; floribus fasciculatis, pedicellis floriferis 1—4 mm. longis; petalis 1—1,5 mm. longis.

Rami vetustiores nigro-grisei. Stipulae non vidi. Folia distiche alterna, utrinque nitida. Flores 5-meri, in axillis foliorum et ad nodos defoliatos  $\sigma$ ; pedicelli floriferi 0,3 mm. crassi. Sepala margine imbricata  $\pm$  1 mm. longa, margine denticellata. Petala apice rotundata, 1,5 mm. longa. Filamenta 0,5

mm. longa, antherae reniformes, 0,2 mm. longae. Discus ovarium cingens, 5-gonus. Stylus nullus: stigma crasse tuberculiforme. Ovarium 2-loculare. Fructus clavatus, 1,5–2 cm. longus, 0,7–1 cm. latus, in basi longe attenuatus, deliiscens, monospermus.

Plate VI.

**Curaçao:** Hills along the road from Westpunt to Savonet (4949); Mount Christoffel (4998); Hills near rooi Behoenda (5508).

**Bonaire:** Slope of Mount Lasalle (7232); Calcareous plateau Klein Bonaire (7491) (type).

**Maytenus Sieberiana** Kr. et Urb. in Symb. Ant. V (1904) 60. vel affin.

**Bonaire:** Joh (7199); Joh (7201); Joh (7203); Soebh (7271); Montkr (7420).

Trinidad. (Symb.).

4649\*. **Rhacoma** Linn.

cf. 4649. **Myginda** Jacq.

**Rhacoma crossopetalum** Linn. Syst. X ed. II (1759) 896;

*Myginda rhacoma* Sw. Prodr. I (1788) 39; Gris. Fl. 146; Johnston 232.

*Myginda pallens* Smith in Rees Cycl. XXV (1813) n. 4; Gris. Fl. 146. Plaaka sjikietoe.

**Curaçao:** Rih (4661); Mok (4828); Mk (4887); Sik (5184); Tk (5270); Hk (5316); Vat (5350). — Suringar.

**Bonaire:** R (7192); Soebh (7262). — Suringar.

On Curaçao 24 places noted; not observed on Aruba; on Bonaire 8 places.

Margarita. (Johnston).

Venezuela. (Johnston); Florida austr., Key, Baham., Antill., Columbia. (Symb.).

## 165. Sapindaceae.

4723. **Serjania** Plum.

**Serjania curassavica** Radlk. in Serjan. Sapind. monographice descript. (1875) 311. Behoekoe.

**Curaçao:** Wo (4933); Wo (4939); Sik<sub>2</sub> (5246); Dh (5635). — Suringar, — Britton & Shafer 3137.

**Aruba:** Jam (6298); Mirh (6460). — Suringar.

**Bonaire:** Macb (7124). — Suringar.

On Curaçao 12 finding places noted, on Aruba 2, on Bonaire 6.

Nova Granata. (Radlk. Serjan.).

4724. **Paullinia** Linn.

**Paullinia pinnata** Linn. Spec. (1753) 366; Gris. Fl. 124.

**Curaçao:** Beh (5513).

Antill., Amer. cont. trop., Afr. trop. (Symb.).

4726. **Cardiospermum** Linn.

**Cardiospermum corindum** Linn. Spec. (1762) 526. Kaboeja makoeto.

**Curaçao:** Kk (5408); Pk (5485). — Aschenberg, — Went 1328, — Britton & Shafer 3138.

**Bonaire:** Rk (7067). — Suringar.

All tropical countries. (Eng. und Prantl).

4739. **Sapindus** Linn.

**Sapindus saponaria** Linn. Spec. (1753) 367; Gris. Fl. 126. Savonetappel.

**Curaçao:** Aschenberg, — Suringar.

Margarita. (Johnston).

Cultivated? [In warmer parts of Americ.] (Symb.).

4760. **Melicocca** Linn.

**Melicocca bijuga** Linn. Spec. (1753) 495; Gris. Fl. 127. Keneepa.

Cultivated. [Amer. trop. from Nicaragua to Surinam.] (Symb.).

4800. **Blighia** Koen.

**Blighia sapida** Koen. in Koen. and Sims. Ann. bot. II (1806) 571; Gris. Fl. 125.

Cultivated. [Africa.] (Ind. Kew.).

## 169. Rhamnaceae.

4861. **Zizyphus** Adans.

**Zizyphus spina cristi** Willd. Spec. Pl. I. 1105.

Cultivated. [Afr. bor., Oriens.] (Ind. Kew.).



4862. **Condalia** Cav.

**Condalia Henriquezii** Boldingh (n. sp.) glaberrima; ramis patentibus spinescentibus; foliis breviter petiolatis cuneato-obovatis retusis, apice breviter distincte mucronulatis, integris; fasciculis 2—vel multifloris; pedicellis calyce duplo vel triplo longioribus; drupa globosa.

Arbor, rami numerosi, crassiusculi, annotini et biennes brunco-cinerascentes, laeves. Spinae 6 cm. longae et longiores. Folia sparsa vel fasciculata, at latera spinarum una cum floribus propullantia, 2 cm. longa, 1,3 cm. lata, basis angustata, nervis lateralibus 2 vel 3, coriacea. Stipulae petiolo breviores, sessiles, trigonae, dense tomentosae. Flores in fasciculos collecti. Alabastra mitraeformia perpaucè acuminata. Pedicelli filiformes. Calyx expansus 0,6 cm. latus, laciniis patentibus, acuminatis. Discus planus pentagonus. Stamina laciniis calycinis multo breviora. Filamenta antheris duplo vel triplo longiora. Antherae ovoideae. Ovarium disco semi immersum, stylus conicus. Drupa globosa, 0,6 cm. longa.

Bessji kabrieto, Paaloe die bessji. Plate VII.

**Curaçao:** Calcareous hills near Malpais (4894); Hills near Siberie (4976) (type.); Calcareous hills near Siberie (5267); Calcareous soil near Knip (5580); Hills to the east of Westpunt (5441); Seashore near St. Jan (5693). — Suringar, — Britton & Shafer 3056.

**Bonaire:** Rincon (7063, 7060).

Occurs only on Curaçao and Bonaire, 15 finding places noted.

4875a. **Krugiodendron** Urb.

**Krugiodendron ferreum** Urb. Symb. Ant. III (1902) 314:

*Condalia ferrea* Gris. Fl. W. I. (1859) 100.

**Bonaire:** Fk (7334); Bolko (7369). — Suringar.

Florida, Key Ins., Baham., Antill. (Symb.).

4882. **Colubrina** L. Cl. Rich.

**Colubrina reclinata** Brongn. in Ann. Sc. nat. I sér. X (1827) 369; Gris. Fl. 101.

**Aruba:** coll. Beaujon.

Florida, Key Ins., Baham., Antill., Venezuela. (Symb.).

170. **Vitaceae.**4918. **Cissus** Linn.

**Cissus sicyoides** Linn. Syst. ed. X (1759) 897; Gris. Fl. 102;

*Vitis sicyoides* Miq. in Ann. Mus. Bot. Lugd. Bat. I (1863) 83. Kaboeja die klimop, Kaboeja die trankeer, Kaboeja korraa, Kaboeja makoeto, Wareeroe.

**Curaçao:** Vw (4716); Pit (4847); C (4988). — Aschenberg, — Suringar, — Britton & Shafer 3100.

**Aruba:** (6214). — Suringar.

**Bonaire:** Gh (7193). — Suringar.

Margarita. (Johnston).

Florida, Baham., Antill., Amer. cont. trop. (Symb.).

**Cissus trifoliata** Linn. Syst. X ed. II (1759) 897;

*Cissus acida* Linn. Spec. (1762) 170; Gris. Fl. 102. Wareeroe kroes.

**Aruba:** (6210). — Suringar.

Florida, Antill., Nova Granata, Guiana. (Symb.).

## 174. Tiliaceae.

### 4953. **Corchorus** Linn.

**Corchorus acutangulus** Lam. Encycl. (1786) II. 104; Gris. Fl. 97.

**Bonaire:** R (7084).

Margarita. (Johnston).

Common to all tropical countries. (Johnston).

**Corchorus hirsutus** Linn. Spec. (1753) 530; Gris. Fl. 97.

**Curaçao:** Cas (4797); Beh (4921); W<sub>2</sub> (5066); Sik<sub>3</sub> (5262*d*); Vat (5365); Be (5400); Hwz (5563). — Britton & Shafer 3073.

**Aruba:** Fonth (6465); Fontz (6469); Ser (6508). — Suringar.

**Bonaire:** Rk (7056); Rk (7075); Okz (7236); Plh (7286). — Suringar.

Found spread on Curaçao, 37 spots noted; on Bonaire 15; only 3 on Aruba, within the Fontein district.

Margarita. (Johnston).

Baham., Antill., Afr. trop. (Symb.).

Venezuela. (Johnston).

**Corchorus orinocensis** H. B. K. Nov. Gen. V (1821) 337.

**Curaçao:** Hato (5345); Be (5396); Ent (5434). — Aschenberg, — Suringar, — Britton & Shafer 3134.

**Bonaire:** R (7020); R (7113).

Antill., Arizona, Mexico, Nova Granata, Venezuela, Peru, Bolivia. (Symb.).

## 175. Malvaceae.

4983. **Abutilon** Adans.

**Abutilon hirtum** Sweet. Hort. Brit. I ed. I (1826) 53;

*Abutilon indicum* var. *hirtum* Griseb. Flor. (1859) 78.

**Curaçao**: Suringar.

**Aruba**: locality unknown.

Florida, Key Ins., Antill., Peru, Afr. trop., Asia austro orient. (Symb.).

**Abutilon umbellatum** Sweet. Hort. Brit. I ed. I (1826) 53; Gris. Fl. 78.

**Curaçao**: Vw (4718); Mo (4810); Mo (4811); Sc (4984); A (5150); Bat (5235); Krh C (5607). — Suringar, — Britton & Shafer.

**Aruba**: (5751*b*); — L (6253). — Suringar.

**Bonaire**: R (7015). — Suringar.

Margarita. (Johnston).

Antill., Mexico, Nova Granata. (Symb.).

4995. **Malvastrum** A. Gray.

**Malvastrum coromandelianum** Gareke in Bonplandia V (1857) 295;

*Malvastrum tricuspdatum* A. Gray Pl. Wright. I (1852) 16; Gris. Fl. 72.

**Curaçao**: Hato (5347). — Suringar.

Tropical countries of both hemisph. (Symb.).

**Malvastrum spicatum** A. Gray in Mem. Am. Acad. N. S. IV (1849) 22; Gris. Fl. 72. Jeerba die sjonija, Jeerba grawatadoo, Leleeko.

**Curaçao**: Rud (4610); Mo (4809); Wa<sub>3</sub> (5105*b*); A (5151*a*); Bat (5237); Vat (5354*b*). — Aschenberg, — Suringar, — Went 1348, — Lens 703, 828; — Britton & Shafer 2959.

**Aruba**: Siv (6327); Suph (6404); Mirh (6445*b*); Mirh (6453*c*). — Suringar.

**Bonaire**; R (7012); R (7024). — Suringar.

Spread; on Curaçao 11 places noted, on Aruba 4, on Bonaire 6.

Margarita. (Johnston).

Tropical countries of both hemisph. (Symb.).

4998. **Sida** Linn.

**Sida acuta** Burm. Flor. Ind. (1768) 147;

*Sida carpinifolia* Linn. fil. Suppl. (1781) 307; Gris. Fl. 73; Bolding I 127.

**Curaçao:** Aschenberg.

Margarita. (Johnston).

In warmer countries of both hemisph. (Symb.).

**Sida ciliaris** Linn. Syst. Ed. X (1759) 1145; Gris. Fl. 73.

**Curaçao:** V (4723); S (5034); Wa<sub>3</sub> (5105*d*); Pih (5328*a*). — Suringar, — Britton & Shafer 3125.

**Aruba:** locality unknown. — Suringar.

Margarita. (Johnston).

In tropical America. (Symb.).

**Sida procumbens** Sw. Prodr. (1788) 101;

*Sida supina* l'Hér. Stirp. Nov. (1789) 109 bis; Gris. Fl. 75; Bolding I 129.

**Curaçao:** V (4725); Bh (4770*a*); Mok (4818); S (5033); Wa<sub>3</sub> (5105*c*). — Aschenberg, — Suringar, — Lens 704, — Britton & Shafer 3048.

**Aruba:** (6204); Siv (6306); Bek (6421); Mirh (6453*g*); Mansz (6557). — Suringar.

On Curaçao 19 finding places noted, on Aruba 4, on Bonaire 10.

Key Ins., Baham., Antill., from Mexico to Venezuela. (Symb.).

**Sida spinosa** Linn. Spec. (1753) 683; Gris. Flor. 74. Jeerba foekoe.

**Curaçao:** Cas (4805); Mok (4817); St (5060). — Aschenberg, — Suringar, — Went 1343, — Britton & Shafer 2921, 3007.

**Aruba:** Suringar.

**Bonaire:** R (7032); R (7085). — Suringar.

Asia, Africa, America. (E. u. P.).

**Sida spinosa** var. **angustifolia** Griseb. Fl. W. I. 74;

*Sida angustifolia* Lam. Encycl. vol. I (1783) 4. Bassoora pleintsji, Foengfoeng homber.

**Curaçao:** Mo (4815*a*); St (5054*p*); Si (5195); Pe (5307). — Aschenberg, — Suringar.

**Aruba:** Ok<sub>2</sub> (6234); Siv (6321); Mirh (6445*g*); Mirh (6452*a*).

**Bonaire:** R (7101).

Margarita. (Johnston).

Trop. countries of both hemisph. (Johnston).

5001. **Bastardia** H. B. K.

**Bastardia viscosa** H. B. K. Nov. Gen. V (1821) 199; Gris. Fl. 80.

**Curaçao:** Vw (4720); Bh (4760); S (5031); A (5157); Bat (5236); Vat (5354 a). — Suringar, — Britton & Shafer 2976.

**Aruba:** Mirh (6457). — Suringar.

**Bonaire:** R (7006); Karh (7305). — Suringar.

29 Finding places noted.

Margarita. (Johnston).

Baham., Antill., from Mexico to Peru. (Symb.).

Venezuela. (Johnston).

5005. **Malachra** Linn.

**Malachra alceifolia** Jacq. Coll. II (1788) 350. Giambo sjimarón.

**Curaçao:** S<sub>2</sub> (5047); Bat (5229); Hatot. — Britton & Shafer 3075.

**Aruba:** Fontt (6475 d).

**Bonaire:** (7325).

Antill., from Panama to Guiana. (Symb.).

5006. **Urena** Linn.

**Urena lobata** Linn. Spec. (1753) 692; Gris. Fl. 81.

**Aruba:** locality unknown.

Warmer countries of both hemisph. (Symb.).

5013. **Hibiscus** Linn.

**Hibiscus brasiliensis** Linn. Spec. (1763) 977;

*Hibiscus phoeniceus* Jacq. Hort. Vind. III (1776) 11 t. 14; Gris. Fl. 85.

**Curaçao:** Vw (4709); Mok (4822); A (5144); A (5156). — Suringar, — Britton & Shafer.

Baham., Antill., Amer. centr., Nova Granata, Venezuela, Guiana. (Symb.)

**Hibiscus esculentus** Linn. Spec. (1753) 696. Giambo.

Cultivated. [Tropical countries of the Old World.] (Symb.).

**Hibiscus Rosa-sinensis** Linn. Spec. (1753) 694.  
Cultivated. [Asia trop.] (Symb.).

5018. **Thespesia** Soland.

**Thespesia populnea** Soland. ex Corra in Ann. Mus. Par. IX (1807) 290; Gris. Fl. S7. Otaheite.

**Curaçao**: Rif (4642). — Aschenberg, — Suringar.  
Margarita. (Johnston).  
All tropical countries. (Johnston).

5019. **Cienfuegosia** Cav.

**Cienfuegosia heterophylla** Garcke in Bonplandia vol. 8. (1860) 150.

**Aruba**: Camk (6383).  
Margarita. (Johnston).  
Brazilia, Venezuela, Columbia, Peruvia, Antill., Florida. (Gürke  
in Mart. Flor. Bras. XII).

5020. **Gossypium** Linn.

**Gossypium hirsutum** Linn. Spec. (1763) 975. Katoena.

**Curaçao**: Be (5395).  
**Aruba**: locality unknown.  
**Bonaire**: Montkr (7391).  
Antill. (Symb.).

177. **Bombacaceae.**

5026. **Ceiba** Médik.

**Ceiba pentandra** Gärtn. Fruct. II (1791) 244 t. 133;

*Eriodendron anfractuosum* DC. Prodr. I (1824) 479; Gris.  
Fl. 88. Katoenboom.  
Cultivated. [Amer. trop., Afr. trop., Asia trop.] (Symb.).

5034. **Ochroma** Swartz.

**Ochroma lagopus** Sw. Prodr. (1788) 98; Gris. Fl. 88.

Cultivated. [From Mexico to Bolivia.] (Symb.).

**178. Sterculiaceae.**5057. **Melochia** Linn.

**Melochia pyramidata** Linn. Spec. (1753) 774; Gris. Fl. 93.

**Curaçao:** Symb.

In warmer countries of both hemisph. (Symb.).

**Melochia tomentosa** Linn. Syst. ed. X (1759) 1140; Gris. Fl. 93. *Bassoora korraa*, *Betoonika*.

**Curaçao:** Vp (4743); Bh (4759c); Hh (5130); Si (5192); Vat (5354); Hwk (5565). — Suringar, — Lens 814, — Britton & Shafér 2913.

**Aruba:** Ok<sub>2</sub> (6243); Mirh (6461); Nick (6498). — Suringar.

**Bonaire:** R (7010); Pl h (7287); Montkr (7418). — Suringar.

Spread; 80 finding places noted.

Margarita. (Johnston).

Baham., Antill., Amer. cont. trop. (Symb.).

5059. **Waltheria** Linn.

**Waltheria americana** Linn. Spec. (1753) 673; Gris. Fl. 95;

*Waltheria indica* Linn. Spec. (1753) 673. *Jeerba die leebea*.

**Curaçao:** St (5057); Jt (5426); Krh C (5603); (5730).

**Bonaire:** R (7116); Zoutkg (7502). — Suringar.

6 Finding places noted on Curaçao and Bonaire each; not observed on Aruba.

Margarita. (Johnston).

In all warmer countries of both hemisph. (Symb.).

5063. **Ayenia** Loefl.

**Ayenia magna** Linn. Syst. ed. X. (1759) 1247; Gris. Fl. 91.

**Curaçao:** Vw (4703); Bh (4759); Vat (5098). — Aschenberg, — Suringar, — Britton & Shafer 3118.

**Bonaire:** R (7099); Montkr (7405).

On Curaçao 18 finding places noted, on Aruba 1, on Bonaire 3.

Jamaica, Mexico, Yucatan, Venezuela. (Gris. Fl.).

5069. **Guazuma** Adans.

**Guazuma ulmifolia** Lam. Enc. III (1789) 52; Gris. Fl. 91. *Goe-aazoema*.

Cultivated. [Amer. trop.] (Symb.).

**187. Guttiferae.**5176. **Mammea** Linn.

**Mammea americana** Linn. Spec. (1753) 512; Gris. Fl. 108.  
Mammeia.

Cultivated. [Baham., Antill., Nova Granata, Guiana, cultivated  
in tropical countries of both hemisph.] (Symb.).

5181. **Clusia** Linn.

**Clusia rosea** Jacq. Enum. Pl. Carib. (1760) 34; Gris. Fl. 107.  
Dam maatsjoe, Koetsjoe, Kopijk, Tam maatsjoe.

**Curaçao**: C (5018).

**Bonaire**: Fk (7336); Fk (7338); Fk (7343).

Baham., Antill., Panama, Venezuela. (Symb.).

**195. Cochlospermaceae.**5251. **Amoreuxia** Moç. et Sessé.

**Amoreuxia palmatifida** Moç. et Sessé ex D C. Prodr. II (1825) 638;

*Amoreuxia Schiedeana* Planch. in Hook. Lond. Journ. Bot.  
(1846) 140. t. 1;

*Euryranthe Schiedeana* Cham. et Schlechtd. in Linnaea V (1830)  
224. Manoeweeri.

**Curaçao**: Sk (5045); Sk (5046).

Amer. bor. (Ind. Kew.); Mexico. (Cham. et Schlechtd. l. c.).

**199. Flacourtiaceae.**5337. **Samyda** Linn.

**Samyda dodecandra** Jacq. Enum. (1760) 21;

*Samyda serrulata* Linn. Spec. (1762) 558; Gris. Fl. 25;  
Boldingh I 136.

**Curaçao**: Wo (4938); Wd (4941); Beh (5530).

**Bonaire**: Soebh (7269).

Antill. (Symb.).

5343. **Casearia** Jacq.

**Casearia bonairensis** Boldingh. (n. sp.) inermis, ramis glabris,  
stipulis filiformis 0,5 cm. longis; foliis 1—1,7 cm. longe petiolatis,



ellipticis, basi et apice acuminatis, 4—9 cm. longis, 2,5—5 cm. latis, margine crenulatis, maturis rigide coriaceis; inflorescentiis axillaribus, corymbose 3—6 floris, pedicellis 1,5 cm. longis, supra basin articulatis; calyce 0,7—0,8 cm. longo, in  $\frac{1}{5}$  alt. gamosepalo, lobis cucullatis; staminibus circ. 12 ex ore tubi calycinis abeuntibus; staminodiis cum staminibus insertis iisque alternantibus, pilosulis; ovario fusiforme, stylo duplo longiore, stigmate capitato; fructu globoso 3—4 cm. longo et crasso.

Frutex vel arbor parvus, rami vetustiores grisei vel brunei. Folia coriacea, nervo medio supra immerso, subtus prominente, lateralibus 4—12 prominulis, adulte nitida. Pedunculus parvus, bracteae 0,3 cm. longae; pedicelli ca. 0,1 cm. supra basin articulati. Calyx glaberrimus. Stamina et staminodia perigyna; filamenta 0,4—0,5 cm. longa, glaberrima; antherae basi affixae 0,15 cm. longae. Staminodia 0,05 cm. longa et lata, dense pilosa. Ovarium 0,2 cm. longum, longiuscule pilosum; stylus 0,1 cm. longus. Fructus exocarpio carnosio, 3—4 cm. longus. Semina numerosa, 0,5 cm. longa.

Paaloe die Bonaire, Geelhout. Plate VIII.

**Curaçao:** Hills near Rif (4696); Hills to the east of Westpunt (4942) (type.). — Suringar, — Britton & Shafer 3055.

**Aruba:** Slope of Hooiberg (6366). — Suringar.

**Bonaire:** Rincon (7038). — Suringar.

On Curaçao 30 finding places noted; not seen eastward of the Schottegat; on Aruba 18, on Bonaire 16 places.

## 201. Turneraceae.

### 5357. *Piriqueta* Aubl.

***Piriqueta ovata*** Urb. Turner. Jahrb. Bot. Gart. u. Mus. Berlin II. (1883) 76.

**Curaçao:** Vp (4744); Mo (4816f); St (5059); Vat (5097a); Aw (5164a). — Suringar, — Britton & Shafer 2967.

**Bonaire:** R (7030); R (7382); PRw (7350).

Portorico, Hispaniola. (Symb.).

### 5360. *Turnera* Linn.

***Turnera pumilea*** Linn. Syst. X ed. II (1759) 965; Gris. Fl. 297.

**Curaçao:** Vat (5097b); Bah (5172). — Suringar, — Britton & Shafer 3049.

**Aruba:** Mirh (6453c); Savk (6543).

Portorico, Cuba, Pinos, Jamaica, Amer. austr. (Symb.).

**Turnera ulmifolia** Linn. Spec. (1753) 271; Gris. Fl. 296.

**Curaçao:** Wo (5452). — Suringar, — Britton & Shafer 3155.

Margarita. (Johnston).

Antill., from Amer. centr. to Guiana. (Symb.).

## 203. Passifloraceae.

5372. **Passiflora** Linn.

**Passiflora foetida** Linn. Spec. (1753) 959; Gris. Fl. 294. Bel appel, Koroona die la birgi, Kruizebloem, Maraaka, Markoesa, Sjonsjon, Sosoro.

**Curaçao:** Vw (4701); Hz (5108). — Suringar, — Britton & Shafer 2970.

**Aruba:** (6216). — Suringar.

**Bonaire:** R (7107); Montkr (7407). — Suringar.

17 Finding places noted.

Margarita. (Johnston).

Baham., Antill., warmer countries of America, Afr. trop., Asia austro-orient. (Symb.).

**Passiflora suberosa** Linn. Spec. (1753) 958; Gris. Fl. 290. Bessji die tinta, Nehoeba.

**Curaçao:** V (4726); W (4926); Wa<sub>3</sub> (5107). — Britton & Shafer 2975.

**Aruba:** Savw (6515).

**Bonaire:** Rk (7042); Soebh (7263); Montkr (7396).

17 Finding places noted.

Florida austr., Key Ins., Baham., Antill., Amer. cont. trop. to Argentina. (Symb.).

## 205. Caricaceae.

5377. **Carica** Linn.

**Carica Papaya** Linn. Spec. (1753) 1026. Papay.

Cultivated. [Patria ignota.] (Symb.).

## 206. Loasaceae.

5383. **Mentzelia** Linn.

**Mentzelia aspera** Linn. Spec. (1753) 516; Gris. Fl. 298. A mooro

falso, Daalpeega, Moora, Peega peega, Peega saaja sjimarón, Pessji pessji.

**Curaçao:** Cas (4802); Wk (4957); Aw (5140); Ent (5432); Kit (5538); Kit (5542); M 4. — Aschenberg, — Suringar, — Lens 840, — Britton & Shafer 2914.

**Aruba:** Ok<sub>2</sub> (6237). — Suringar.

**Bonaire:** Suringar.

17 Finding places noted in all, of which 2 on Bonaire.

Margarita. (Johnston).

Antill., warmer countries of Amer. cont. (Symb.).

## 210. Cactaceae.

### 5401. *Cereus* Mill.

***Cereus griseus*** Haw. Syn. Pl. Succ. (1812) 182;

*Lemairocereus griseus*. Britton & Rose in Contr. U. St. Nat. Herb. vol. XII (1909). Daatoe, Kadoesji, Jaatoe.

**Curaçao:** }  
**Aruba:** } Widely dispersed over the three Islands.  
**Bonaire:** }

Margarita. (Johnston).

Mexico, Venezuela. (Schumann Mon. Cact.).

***Cereus Napoleonis*** Grah. in Bot. Mag. t. 3458.

**Aruba:** only seen and collected near Tankie Leendert.

Antill. (Schumann Mon. Cact.).

***Cereus repandus*** Haw. Syn. Pl. Succ. (1812) 183;

*Cereus Hermannianus* Suringar in Melocacti Novi. in Versl. en Med. Kon. Akad. 3<sup>e</sup> Reeks. Deel II (1865) 194. Kadoesji.

**Curaçao:** }  
**Aruba:** } Widely dispersed over the three Islands.  
**Bonaire:** }

### 5403. *Cephalocereus* Pfeiff.

***Cephalocereus lanuginosus*** Britton & Rose in Contr. U. S. Nat. Herb. vol. XII (1909). Breebee die poesji, Kadoesji die poesji, Kadoesji spanjool.

**Curaçao:** }  
**Aruba:** } Dispersed over the three Islands, but not in  
**Bonaire:** } such quantities like the two *Cereus* species.

5409. **Melocactus** Link et Otto. 1)

Boesji, Kabeez indian, Kabeez inglees, Melon die seeroe.

**Melocactus aciculosus** J. V. Suringar in Contributions Melocactus (1901) 23.

Curaçao.

**Melocactus albispinus** W. F. R. Suringar in Melocacti novi (1889) 446.

Aruba.

**Melocactus albispinus** forma **quadrispina** W. F. R. Suringar in Melocacti novi (1889) 446.

Aruba.

**Melocactus appropinquatus** J. V. Suringar in Contributions Melocactus (1901) 20.

Curaçao.

**Melocactus approximatus** W. F. R. Suringar in Melocacti novi (1885) 189.

Aruba.

**Melocactus arcuatus** W. F. R. Suringar in Melocacti novi (1889) 450.

Aruba.

**Melocactus argenteus** W. F. R. Suringar in Melocacti novi (1889) 439.

Aruba.

**Melocactus argenteus** var. **tenuispina** W. F. R. Suringar in Melocacti novi (1889) 439.

Aruba.

**Melocactus armatus** W. F. R. Suringar in Melocacti novi (1889) 458.

Aruba.

**Melocactus Baarsianus** W. F. R. Suringar in Melocacti novi (1889) 448.

Aruba.

**Melocactus Bargei** J. V. Suringar in Contributions Melocactus (1901) 9.

Curaçao.

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1) I did not study the species of *Melocactus* but compiled this enumeration from the quoted publications of W. F. R. and J. V. Suringar.

**Melocactus Besleri** Miq. in Monogr. Generis Melocacti. (1841).  
Aruba.

**Melocactus Buysianus** J. V. Suringar in Contributions Melocactus (1901) 38.  
Curaçao.

**Melocactus capillaris** W. F. R. Suringar in Melocacti novi (1889) 442.  
Aruba.

**Melocactus communiformis** W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 186.  
Curaçao.

**Melocactus compactus** W. F. R. Suringar in Melocacti novi (1889) 444.  
Aruba.

**Melocactus (radiatus) contortus** W. F. R. Suringar in Melocacti novi (1889) 445.  
Aruba.

**Melocactus cordatus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 5.  
Aruba.

**Melocactus cornutus** W. F. R. Suringar in Melocacti novi (1885) 191.  
Curaçao.

**Melocactus cylindricus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 19.  
Curaçao.

**Melocactus (stellatus) dilatatus** W. F. R. Suringar in Melocacti novi (1889) 454.  
Aruba.

**Melocactus dilatatus** var. **leucanthus** W. F. R. Suringar in Melocacti novi (1889) 454.  
Aruba.

**Melocactus eburneus** W. F. R. Suringar in Melocacti novi (1889) 447.  
Aruba.

**Melocactus eburneus** forma **plurispina** W. F. R. Suringar in Melocacti novi (1889) 447.

Aruba.

**Melocactus elongatus** W. F. R. Suringar in Melocacti novi (1889) 451.

Aruba.

**Melocactus euryacanthus** W. F. R. Suringar in Melocacti novi (1889) 447.

Aruba.

**Melocactus Evertszianus** W. F. R. Suringar in Melocacti novi (1885) 190.

Aruba.

**Melocactus exsertus** W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 189.

Curaçao.

**Melocactus exsertus** forma **plurispina** W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 189.

Curaçao.

**Melocactus extensus** W. F. R. Suringar in Melocacti novi (1889) 442.

Aruba.

**Melocactus (rubellus) ferox** W. F. R. Suringar in Melocacti novi (1885) 185.

Aruba.

**Melocactus (rubellus) ferus** W. F. R. Suringar in Melocacti novi (1889) 444.

Aruba.

**Melocactus firmus** J. V. Suringar in Contributions Melocactus (1901) 17.

Curaçao.

**Melocactus flammeus** W. F. R. Suringar in Melocacti novi (1889) 457.

Aruba.

**Melocactus (stellatus) flavispinus** W. F. R. Suringar in Melocacti novi (1889) 453.

Aruba.

**Melocactus flexilis** W. F. R. Suringar Melocacti novi (1889) 453.  
Aruba.

**Melocactus flexus** W. F. R. Suringar in Melocacti novi (1889) 441.  
Aruba.

**Melocactus gilvispinus** J. V. Suringar in Contributions Melocactus (1901) 28.  
Curaçao.

**Melocactus gracilis** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 16.  
Curaçao.

**Melocactus grandis** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 11.  
Curaçao.

**Melocactus grandispinus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 12.  
Curaçao.

**Melocactus grollianus** W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 190.  
Curaçao.

**Melocactus (rubellus) hexacanthus** W. F. R. Suringar in Melocacti novi (1885) 185.  
Aruba.

**Melocactus humilis** J. V. Suringar in Nouvelles contributions Melocactus (1910) 17.  
Aruba.

**Melocactus incurvus** W. F. R. Suringar in Melocacti novi (1889) 441.  
Aruba.

**Melocactus incurvus** var? **nanus** W. F. R. Suringar in Melocacti novi (1889) 441.  
Aruba.

**Melocactus (stellatus?) inflatus** W. F. R. Suringar in Melocacti novi (1889) 454.  
Aruba.

**Melocactus intermedius** W. F. R. Suringar in Melocacti novi (1885) 192.  
Curaçao.

**Melocactus intermedius** var. **laticostatus** J. V. Suringar in Contributions Melocactus (1901) 15.

Curaçao.

**Melocactus intermedius** var. **rotundatus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 9.

Curaçao.

**Melocactus intermedius** var. **tenuispinus** J. V. Suringar in Contributions Melocactus (1901) 17.

Curaçao.

**Melocactus inversus** J. V. Suringar in Contributions Melocactus (1901) 19.

Curaçao.

**Melocactus Koolwijkianus** W. F. R. Suringar in Melocacti novi (1885) 184.

Aruba.

**Melocactus Koolwijkianus** var. **adustus** W. F. R. Suringar in Melocacti novi (1889) 438.

Aruba.

**Melocactus Koolwijkianus** forma **4-spina** W. F. R. Suringar in Melocacti novi (1889) 438.

Aruba.

**Melocactus Koolwijkianus** forma **plurispina** W. F. R. Suringar in Melocacti novi (1889) 439.

Aruba.

**Melocactus limis** W. F. R. Suringar in Melocacti novi (1889) 440.

Aruba.

**Melocactus Lehmannii** Miq. Monogr. Gen. Melocacti (1841) 71.

Curaçao.

**Melocactus lutescens** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 13.

Curaçao.

**Melocactus macracanthus** forma **elegans** W. F. R. Suringar in Melocacti novi (1885) 191.

Bonaire.

**Melocactus macracanthus** var. **miacanthus** J. V. Suringar in Contributions Melocactus (1901) 30.

Curaçao.



**Melocactus martialis** W. F. R. Suringar in *Melocacti novi* (1889) 443.

Aruba.

**Melocactus microcarpus** J. V. Suringar in *Nouvelles Contributions Melocactus* (1910) 3.

Aruba.

**Melocactus microcephalus** var. **olivascens** W. F. R. Suringar in *Melocacti novi* (1889) 461.

Curaçao.

**Melocactus Monvilleanus** Miq. in *Nov. Act. Nat. Cur.* XVIII. Suppl. 1 (1841) 113.

Aruba.

**Melocactus obliquus** W. F. R. Suringar in *Melocacti novi* (1889) 440.

Aruba.

**Melocactus obliquus** forma **4-spina** W. F. R. Suringar in *Melocacti novi* (1889) 440.

Aruba.

**Melocactus obovatus** W. F. R. Suringar in *Melocacti novi* (1889) 453.

Aruba.

**Melocactus ovatus** W. F. R. Suringar in *Melocacti novi* (1889) 456.

Aruba.

**Melocactus parvispinus** W. F. R. Suringar in *Melocacti novi* (1885) 183.

Bonaire.

**Melocactus patens** W. F. R. Suringar in *Melocacti novi* (1885) 190.

Bonaire.

**Melocactus pentacanthus** W. F. R. Suringar in *Melocacti novi* (1889) 445.

Aruba.

**Melocactus pinguis** J. V. Suringar in *Contributions Melocactus* (1901) 11.

Curaçao.

**Melocactus pinguis** var. **areolosus** J. V. Suringar in *Nouvelles Contributions Melocactus* (1910) 7.

Curaçao.

**Melocactus pinguis** var. **laticostatus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 19.

Curaçao.

**Melocactus pinguis** var. **planispinus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 15.

Curaçao.

**Melocactus pinguis** var. **tenuissimus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 20.

Curaçao.

**Melocactus pulvinosus** W. F. R. Suringar in Melocacti novi (1889) 458.

Aruba.

**Melocactus pusillus** W. F. R. Suringar in Melocacti novi (1885) 192.

Curaçao.

**Melocactus pyramidalis** Salm-Dyck. Obs. bot. p. 4.

Curaçao.

**Melocactus pyramidalis** var. **compressus** J. V. Suringar in Nouvelles Contributions Melocactus (1910) 4.

Curaçao.

**Melocactus pyramidalis** var. **costis angustioribus** J. V. Suringar in Contributions Melocactus (1901) 35.

Curaçao.

**Melocactus pyramidalis** var. **pumilus** W. F. R. Suringar in Vijfde Bijdrage tot de kennis der Melocacti (1897) 191.

Curaçao.

**Melocactus radiatus** W. F. R. Suringar in Melocacti novi (1889) 446.

Aruba.

**Melocactus rectiusculus** W. F. R. Suringar in Melocacti novi (1885) 187.

Aruba.

**Melocactus reticulatus** W. F. R. Suringar in Melocacti novi (1889) 453.

Aruba.

**Melocactus reversus** W. F. R. Suringar in Melocacti novi (1885) 187.

Aruba.

**Melocactus roseus** W. F. R. Suringar in *Melocacti novi* (1889) 439.  
Aruba.

**Melocactus rotatus** W. F. R. Suringar in *Vijfde Bijdrage tot de kennis der Melocacti* (1897) 191.  
Aruba.

**Melocactus rotifer** W. F. R. Suringar in *Vijfde Bijdrage tot de kennis der Melocacti* (1897) 188.  
Curaçao.

**Melocactus rotifer** var. **angustior** J. V. Suringar in *Nouvelles Contributions Melocactus* (1910) 14.  
Curaçao.

**Melocactus rotula** W. F. R. Suringar in *Vijfde Bijdrage tot de kennis der Melocacti* (1897) 186.  
Curaçao.

**Melocactus rotula** var. **angusticostata** J. V. Suringar in *Nouvelles Contributions Melocactus* (1910) 8.  
Curaçao.

**Melocactus rotula** var. **validispinus** J. V. Suringar in *Nouvelles Contributions Melocactus* (1910) 10.  
Curaçao.

**Melocactus rubellus** W. F. R. Suringar in *Melocacti novi* (1885) 184.  
Aruba.

**Melocactus rudis** W. F. R. Suringar in *Melocacti novi* (1889) 442.  
Aruba.

**Melocactus Salmianus** var. **adauctus** W. F. R. Suringar in *Melocacti novi* (1889) 460.  
Aruba.

**Melocactus Calmianus** var. **aciculosus** W. F. R. Suringar in *Vijfde Bijdrage tot de kennis der Melocacti* (1897) 187.  
Curaçao.

**Melocactus Salmianus** var. **spectabilis** J. V. Suringar in *Contributions Melocactus* (1901) 22.  
Curaçao.

**Melocactus (stellatus?) sordidus** W. F. R. Suringar in *Melocacti novi* (1889) 451.  
Aruba.

**Melocactus spatanginus** W. F. R. Suringar in *Melocacti novi* (1885) 193.

Bonaire.

**Melocactus spatanginus** forma **tenuispina** W. F. R. Suringar in *Melocacti novi* (1885) 194.

Curaçao.

**Melocactus stellatus** W. F. R. Suringar in *Melocacti novi* (1889) 452.

Aruba.

**Melocactus stramineus** W. F. R. Suringar in *Melocacti novi* (1885) 185.

Aruba.

**Melocactus tenuissimus** J. V. Suringar in *Nouvelles Contributions Melocactus* (1910) 6.

Curaçao.

**Melocactus trachycephalus** W. F. R. Suringar in *Melocacti novi* (1889) 455.

Aruba.

**Melocactus (stramineus) trichacanthus** W. F. R. Suringar in *Melocacti novi* (1885) 186.

Aruba.

**Melocactus trigonaster** J. V. Suringar in *Nouvelles Contributions Melocactus* (1910) 4.

Curaçao.

**Melocactus trigonus** W. F. R. Suringar in *Melocacti novi* (1889) 456.

Aruba.

**Melocactus uncinatus** W. F. R. Suringar in *Melocacti novi* (1889) 450.

Aruba.

**Melocactus Zuccarini** Miq. in *Linnaea* XI 345. (ex. Schumann).

Curaçao.

5411. **Mamillaria** Haw.

**Mamillaria simplex** Haw. *Suppl.* 71 (1819); *Gris. Fl.* 300.

Curaçao: Britton & Shafer 3085.

Margarita. (Johnston).

Antill., Venezuela. (*Gris. Fl.*).

5417. **Opuntia** Mill.

**Opuntia curassavica** Mill. Gard. Dict. ed. VIII n. 7. Juffrouw, Kalieber, Kaaka die poesji.

**Curaçao:** Blt (4900); S (5028).

**Aruba:** Cank (6377).

**Bonaire:** locality unknown.

Widely dispersed on the three Islands.

Antill. (Schumann Monogr. Cact.).

**Opuntia tunoides** Britton et Rose in manuscr. Juffrouw. Friekampeeuw, Sjangran, Toena, Toena spanjool.

<b>Curaçao:</b>	} Widely dispersed over the three Islands.
<b>Aruba:</b>	
<b>Bonaire:</b>	

Type, Britton & Shafer 2904.

**Opuntia elatior** Mill. Dict. VIII. n. 4;

*Tuna elatior*, spinis validis nigricantibus, in Dill. Hort. Eltham. p. 395, t. 294.

<b>Curaçao:</b>	} Not widely dispersed.
<b>Bonaire:</b>	

5421. **Peireskia** Mill.

**Peireskia bleo** D C. Prodr. III (1828) 475. Goeemaatsjoe.

Cultivated. [Nova Granata, Brasilia.] (Schumann Monogr. Cact.).

216. **Lythraceae.**5474. **Ammannia** Linn.

**Ammannia auriculata** Willd. Hort. Berol. I (1806) t. 7.

**Bonaire:** Rk (7153); R (7233); Bonk (7486).

In warmer countries of both hemisph. (Koehne Pflanzenr. IV. 216).

**Ammannia coccinea** Rottb. Plant. hort. Univ. Havn. Progr. descr. (1773) 7.

**Curaçao:** Britton & Shafer 3010.

America and Asia. (Koehne Pflanzenr. IV. 216).

**Ammannia latifolia** Linn. Spec. (1753) 119; Gris. Fl. 270.

**Curaçao:** Bat (5226).

**Bonaire:** Macb (7122); Plah (7296).

Warmer and tropical countries of America. (Symb.).

5494. **Lawsonia** Linn.

**Lawsonia inermis** Linn. Spec. (1753) 349. Reseda.  
Cultivated. [Africa, Asia, Australia.] (Koehne 1903).

## 218. Punicaceae.

5501. **Punica** Linn.

**Punica Granatum** Linn. Spec. (1753) 472. Granaatappel.  
Cultivated. [Mediterran. countries.] (Symb.).

## 220. Rhizophoraceae.

5523. **Rhizophora** Linn.

**Rhizophora Mangle** Linn. Spec. (1753) 443; Gris. Fl. 274.  
Manggel tán.

**Curaçao**: Suringar.

**Aruba**: Mansz (6555).

**Bonaire**: Lack (7480).

7 Finding places noted.

Margarita. (Johnston).

Amer. trop., Afr. occ. trop. (Symb.).

## 221. Combretaceae.

5541. **Quisqualis** Linn.

**Quisqualis indica** Linn. Spec. (1762) 556.  
Cultivated. [Asia austro-orient., Philipp., Afr. occid.] (Symb.).

5544. **Terminalia** Linn.

**Terminalia Catappa** Linn. Mant. II (1771) 519. Wilde amandel.  
Cultivated. [Malay. Ins.] (Symb.).

5548. **Conocarpus** Gärtn.

**Conocarpus erectus** Linn. Spec. (1753) 76; Gris. Fl. 277. Grijze manggel, Manggel, Manggel blanko, Witte manggel.

**Curaçao**: Mk (4892); Vat (5366); Cak (5411); Pk (5484). —  
Suringar, — Went 1325.

**Aruba:** Mankz (6285).

**Bonaire:** Grkz (7178). — Suringar.

Margarita. (Johnston).

Amer. trop., Galapagos, Afr. trop. occ. (Symb.).

#### 5551. **Laguncularia** Gärtn.

**Laguncularia racemosa** Gärtn. f. Fruct. III (1805) 209, t. 217, f. 2; Gris. Fl. 276.

**Curaçao:** Vht (5363). — Suringar, — Britton & Shafer 2937.

**Aruba:** Mankz (6287).

**Bonaire:** R (7185).

8 Finding places noted.

Margarita. (Johnston).

Amer. trop., Afr. trop. occ. (Symb.).

## 222. Myrtaceae.

#### 5559. **Psidium** Linn.

**Psidium Guajava** Linn. Spec. (1753) 470. Goeajaaba.

Cultivated. [Amer. trop.] (Symb.).

#### 5578. **Eugenia** Linn.

**Eugenia javanica** Lam. Dict. III. 200. Kaasjoe die Surinaam.

Cultivated. [Ind. orient.].

## 224. Oenotheraceae.

#### 5791. **Jussieua** Murr.

**Jussieua erecta** Linn. Spec (1753) 388;

*Jussieua acuminata* Sw. Flor. II (1800) 745; Gris. Fl. 272.

**Bonaire:** Zkr (7337).

Tropical countries of Africa and America. (Symb.).

**228. Umbelliferae.**5893. **Hydrocotyle** Linn.**Hydrocotyle hirsuta** Sw. Prodr. (1788) 54.**Curaçao:** (Symb.).

Baham., Antill., Brasilia. (Symb.).

**235a. Theophrastaceae.**6282. **Jacquinia** Linn.**Jacquinia barbasco** Mez. in Pflanzenr. (1903) 32;*Jacquinia armillaris* Jacq. Enum. Pl. Carib. (1760) 15; Gris. Fl. 397; Boldingh I 150. Mata piskaa, Paaloe hóekoe, Sjiengool, Steenhout.**Curaçao:** Wk (4954); C (5006); Sk (5042); Hk (5075); H<sub>2</sub> (5121c); Hz (5135); Sik<sub>3</sub> (5257); Sik<sub>3</sub> (5262a); Fk (5271); K (5459). — Aschenberg, — Suringar, — Went 1323, — Britton & Shafer 3029.**Aruba:** Fonth (6469); Serk (6483).**Bonaire:** Suringar.

Spread; on Curaçao 16 spots noted, on Aruba 7, on Bonaire 9.

Antill. (Symb.).

**239. Sapotaceae.**6361. **Achras** Linn.**Achras sapota** Linn. Syst. X ed. II (1759) 988;*Sapota Achras* Mill. Gard. Dict. VIII ed. (1768) n. 1; Gris. Fl. 399. Mispoe.

Cultivated. [Cultiv. in trop. countries of both hemisph.] (Symb.).

6374. **Bumelia** Sw.**Bumelia obovata** A. DC. Prodr. VIII (1844) 191;*Bumelia cuneata* Sw. Flor. I (1797) 496; Gris. Fl. 401; Johnston (Margarita). Paaloe die leetsji, Paaloe ploeta, Raambessji.**Curaçao:** Mah (4854); Wk (4951); C (5017); Hk (5132); Hk (5310); Hk (5312); Ch<sub>2</sub> (5419); K (5453); K (5455). — Suringar, — Britton & Shafer 3109.**Aruba:** Mand (6289); Nick (6494).



**Bonaire:** Montkr (7422); Okz (7235); Montkr (7425); Skr (7431);  
Skr (7432).

On Curaçao 28 finding places noted, on Aruba 14, on Bonaire 15.

Margarita. (Johnston).

Antill. (Symb.).

## 243. Oleaceae.

6440. **Jasminum** Linn.

**Jasminum azoricum** Linn. Spec. (1753) 7.

Cultivated. [Ins. Azor. and Madeira.] (E. u. P.).

**Jasminum pubescens** Willd. Sp. Pl. I (1798) 37.

Cultivated. [Ind. Orient., Birma, China.] (E. u. P.).

## 245. Loganiaceae.

6453. **Spigelia** Linn.

**Spigelia anthelmia** Linn. Spec. (1753) 149; Gris. Fl. 331. Le engga  
die baaka.

**Curaçao:** Cas (4789); H<sub>2</sub> (5119); Zt (5382e). — Aschenberg, —  
Suringar, — Britton & Shafer 3040.

**Aruba:** Beh (6428d). — Suringar.

**Bonaire:** R (7028).

Amer. trop. (Symb.).

## 247. Apocynaceae.

6578. **Plumiera** Linn.

**Plumiera rubra** Linn. Spec. (1753) 209.

Cultivated. [Amer. trop.] (Symb.).

6619. **Rauwolfia** Linn.

**Rauwolfia Lamarkii** DC. Prodr. VIII (1844) 337; Gris. Fl. 408.

**Aruba:** Savw (6516); Savw (6517).

Margarita. (Johnston).

Antill. (Symb.); Equador. (Gris. Fl.).

6632. **Thevetia** Adans.

**Thevetia neriifolia** Juss. ex Steud. Nom. ed. II, II (1811) 680.

Cultivated. [Amer. trop.] (Symb.).

6687. **Nerium** Linn.

**Nerium Oleander** Linn. Spec. (1753) 209.  
Cultivated. [Mediterran. countries.] (Symb.).

## 248. **Asclepiadaceae.**

6736. **Cryptostegia** R.Br.

**Cryptostegia grandiflora** R. Br. in Bot. Reg. t. 435 (1819).  
Cultivated. [Patria ignot.] (Symb.).

6791. **Asclepias** Linn.

**Asclepias nivea** Linn. Spec. (1753) 215; Gris. Fl. 419.

*Asclepias curassavica* Linn. Spec. (1753) 215; Gris. Fl. 419; Johnston (Margarita). Komtsjikoeskotter.

**Curaçao**: Aschenberg.

Margarita. (Johnston).

Widely dispersed in both hemisph. (Symb.).

6792. **Calotropis** R. Br.

**Calotropis procera** R. Br. in Ait. Hort. Kew. ed. 2 (1811) II 78; Gris. Fl. 420. Katoena die seeda, Zijkatoen.

**Curaçao**: Suringar, — Lens 835.

**Aruba**: Nick (6488). — Suringar.

On Curaçao 8 finding places noted, on Aruba 3, on Bonaire 1.

Margarita. (Johnston).

Indig. in Afr. sept. and Ind. orient. (Symb.).

6798. **Metastelma** R.Br.

**Metastelma Boldinghii** Schlecht. in Symb. Antill. VII (1912) 338.

**Curaçao**: Mok (4831); Sik<sub>3</sub> (5258). — Went 1326.

**Bonaire**: Fh (7249).

6934. **Omphalophthalmus** Karst.

**Omphalophthalmus ruber** Karst. Fl. Columb. II (1865) 119. t. 163. Kabeez die mariekoe, Marie pompoen.

**Curaçao**: Wah (5254). — Suringar.

**Aruba**: (6212). — Suringar.

**Bonaire:** R (7098). — Suringar.

On Curaçao 4 finding places noted, on Aruba 2, on Bonaire 1, especially in the hilly country.

Nova Granata. (Karst. Fl. Columb.).

## 249. Convolvulaceae. \*)

6968. **Cuscuta** Linn.

**Cuscuta americana** Linn. Spec. (1753) 124; Gris. Fl. 476. Hielo die diaabel.

**Curaçao:** Bh (4759); Sih (5191). — Suringar, — Went 1322, -- Britton & Shafer 3065.

**Bonaire:** Bolko (7377); R (7381).  
Amer. trop. (Symb.).

**Cuscuta arvensis** Beyr. ap. Hook. Flor. bor. amer. II (1840) 77.

**Curaçao:** Vat (5099); Hz (5136); Bat (5220); Pk (5473); Pk (5481). — Britton & Shafer 2915.

**Bonaire:** R (7081); PRw (7349); Bact (7476).

Baham., Martinique, Amer. cont. from U. S. to Brasilia. (Symb.).

**Cuscuta partita** Choisy Cusc. 188 t. 5. f. 3.

**Curaçao:** Britton & Shafer 3096.

**Bonaire:** R (7379).

Brasilia, Venezuela. (Engelmann Gen. Cuscutae).

6973. **Evolvulus** Linn.

**Evolvulus alsinoides** Linn. Spec. (1762) 392; Gris. Fl. 475. Jeerba plaata, Jeerba sjieko.

**Curaçao:** Bh (4766); Sk (5038); Pk (5471). — Britton & Shafer 3037.

**Aruba:** Andh. (6397); Mirh (6456).

In tropical and subtrop. countries of both hemisph. (Hall. Bull. Bois. VII).

**Evolvulus Columbianus** Meissn. in Mart. Fl. Bras. III (1869) 347.

**Curaçao:** C (4997); C (5007). — Suringar.

Columbia, Venezuela, Trinidad, St Kitts. (Hallier m. s.).

**Evolvulus glaber** Spreng. Syst. I (1825) 862;

*Evolvulus mucronatus* Sw. ex Wikstr. in Vet. Acad. Handl.

\*) The greater part of the Convolvulaceae has been elaborated by Dr. H. Hallier.

Stockholm (1827) 61; Gris. Fl. 475; Johnston (Margarita).  
Tsjananaa.

**Curaçao:** Sk (5037); Hz (5138); Ba (5165); Bat (5216). —  
Britton & Shafer 3079.

**Aruba:** Mirh (6453*b*); Fontz (6474); Savk (6541). — Suringar.

**Bonaire:** R (7103); Mat (7301). — Suringar.

Margarita. (Johnston).

Amer. trop. (Symb.).

**Evolvulus nummularius** Linn. Spec. (1762) 391; Gris. Fl. 475.

**Curaçao:** Britton & Shafer 3047.

Trop. Amer. and Afr. (Symb.).

6986. **Porana** Burm.

**Porana paniculata** Roxb. Hort. Beng. (1814) 13.

Cultivated. [India orient. Malay.] (Ind. Kew.).

6991. **Jacquemontia** Choisy.

**Jacquemontia cumanensis** O. K. Rev. Gen. I (1891) 441.

**Curaçao:** Vd (4741); Be (5399). — Lens 823.

**Bonaire:** Fz (7241); Bolkg (7376).

Nicaragua, Venezuela. (Hallier ms.).

**Jacquemontia evolvuloides** Meissn.

*α. longepedunculata* Meissn. in Mart. Fl. Bras III (1889) 307. t. 112.

**Curaçao:** Bat (5218); Krh C (5610). — Aschenberg, — Suringar, —  
Britton & Shafer 3119.

*β. brevipedunculata* Meissn. l. c. 307.

**Bonaire:** R (7100).

Brit. Guyana, Brasilia, Bolivia, Paraguay, Argentina. (Hallier ms.).

**Jacquemontia nodiflora** Don. Gen. Syst. IV (1838) 283;

*Convolvulus nodiflorus* Desr. in Lam. Enc. III (1789) 557; Gris.  
Fl. 475.

**Curaçao:** Sc (4983); A (5160); Dh (5631). — Britton & Shafer  
3064.

**Aruba:** Serk (6483).

**Bonaire:** R (7109).

Antill., Amer. cont. trop. from Mexico to Ecuador. (Symb.).

**Jacquemontia pentantha** G. Don. Gen. Syst. IV (1838) 283;  
*Convolvulus pentanthus* Jacq. Coll. IV (1790) 210; Gris. Fl. 474;  
*Jacquemontia violacea* Choisy in Mem. Soc. Phys. Genève. vol.  
 8. (1838) 61. (Johnston).

**Curaçao:** Aschenberg.

Margarita. (Johnston).

Ant., Amer. trop. cont. from Mexico to Peru. (Symb.).

6997. **Merremia** Dennst.

**Merremia aegyptia** Urb. in Symb. Antill. IV (1910) 505;  
*Merremia pentaphylla* Hallier f. in Engl. Jahrb. XVI (1893) 552;  
*Ipomoea pentaphylla* Jacq. Col. II (1788) 297; Gris. Fl. 467;  
 Bolding I 162.

**Curaçao:** St (5054c); M 17; M 22. — Britton & Shafer 3003.

Antil., Amer. cont. trop., Afr. trop., India orient., Ins. Sandw.  
 (Symb.).

7003. **Ipomoea** Linn.

**Ipomoea acuminata** R. et Sch. Syst. IV (1819) 228;  
*Ipomoea jamaicensis* var. *glabrata* Gris. Flor. Br. W. I. (1861)  
 474.

**Curaçao:** (Symb.).

Bermud., Florida, Baham., Antill., Mexico, Amer. centr. (Symb.).

**Ipomoea batatas** Poir. Encycl. VI (1804) 14.

Cultivated. [Amer. centr.] (E. u. P.).

**Ipomoea calantha** Gris. Cat. (1866) 202.

**Curaçao:** (Symb.).

Cuba, Columbia. (Symb.).

**Ipomoea carnea** Jacq. Enum. (1760) 13; Gris. Fl. 469.

**Curaçao:** Aschenberg.

**Aruba:** (Symb.).

Margarita: (Symb.).

Jamaica, St. Vincent, from Nicaragua to Nova Granata and  
 Venezuela. (Symb.).

**Ipomoea commutata** R. et Sch. Syst. IV (1819) 228.

**Curaçao:** Kit (5497). — Suringar.

**Aruba:** Ok<sub>2</sub> (6242); Ok<sub>2</sub> (6245); Savh (6535). — Suringar.

**Bonaire:** Rt (7159).

Amer. sept., St. Thomas. (Hallier, Wiss. Aust. Hamb. 1898).

***Ipomoea heptaphylla*** Voigt Hort. Suburb. Calc. (1845) 360;

*Ipomoea pulchella* Gris. Flor. (1861) 470;

*Ipomoea pulchella* Roth. Nov. pl. sp. (1821) 115.

**Curaçao:** Blt (4913); Bat (5212); Wo (5434a); M 11; M 12. — Suringar. — Britton & Shafer 2999.

Tropical countries of both hemisph. (Symb.).

***Ipomoea incarnata*** Choisy in DC. Prodr. IX (1845) 360.

**Curaçao:** CaC (4806); Ma (4880); S (5029); Bat (5208); Wo (5439). — Aschenberg, — Suringar, — Britton & Shafer 2968, 3008.

**Aruba:** (5758).

**Bonaire:** R (7108); Bolko (7371).

St. Martha, Galapag. Ins., Abington, Chatham, Indefastigable, Ecuador, Brasilia.

***Ipomoea muricata*** Jacq. Hort. Schönbr. II (1798) 40. *Kaboeja igoeana*.

**Curaçao:** St (5054); St (5054b). — Aschenberg.

**Bonaire:** R (7096); R (7097); Montk (7399).

In warmer countries of both hemisph. (Hallier Bull. herb. Bois. V).

***Ipomoea nil*** Roth. Cat. I (1797) 36; Gris. Fl. 473. *Trompet*.

**Curaçao:** Bat (5211); Kit (5495); M 22. — Aschenberg, — Britton & Shafer 3061.

**Aruba:** (5741).

**Bonaire:** Rk (7094).

Warmer parts of America, Afr. trop., Asia austro-or., Ins. Sandw.

***Ipomoea pes caprae*** Roth. Nov. Pl. Sp. (1821) 109; Gris. Fl. 470.

**Curaçao:** van Breemen.

Margarita. (Johnston).

Warmer and tropical countries of both hemisph. (Symb.).

***Ipomoea triloba*** Linn. Spec. (1753) 161; Gris. Fl. 470.

**Curaçao:** M 25; M 26. — Lens 804.

Florida, Baham., Antill., warmer parts of Amer. centr. and sept., Galapagos. (Symb.).

***Ipomoea tuba*** G. Don. Gen. Syst. IV (1838) 271; Gris. Fl. 467;

*Ipomoea glaberrima* Boj. in Hook. Journ. I (1834) 357.

**Curaçao:** Rif (4640). — Britton & Shafer.

**Aruba:** (5739).

Key Ins., Baham., Antill., from Mexico to Guiana, Afr. trop., Asia austro-orient., Ins. pacif. (Symb.).

7005. **Quamoclit** Moench.**Quamoclit coccinea** Moench. Meth. (1794) 154.

Cultivated. [In tropical countries of both hemisph.] (Symb.).

**Quamoclit pinnata** Boj. Hort. Maur. (1837) 224.

Cultivated. [In tropical countries of both hemisph.] (Symb.).

**251. Hydrophyllaceae.**7037\*. **Nama** Linn.cf. 7037. **Hydrolea** Linn.**Nama jamaicense** Linn. Syst. X ed. II (1759) 950; Gris. Fl. 477; *Hydrolea jamaicensis* Raeusch. Nom. ed. III (1797) 76; Boldingh I 163.**Curaçao**: Nas W (4687); M 5. — Aschenberg, — Suringar, — Britton & Schafer 3033.

Bermud., Florida, Key West, Baham., Antill., from Texas to Venezuela. (Symb.).

**252. Borraginaceae.**7038. **Cordia** Linn.**Cordia alba** R. et Sch. Syst. (1819) 466; Gris. Fl. 478. Kara-waara.**Curaçao**: Vw (4700); Blw (4753). — Suringar, — Went 1332, — Lens 810, — Britton & Shafer 2982.**Aruba**: Ok<sub>2</sub> (6229); Nick (6487). — Suringar.**Bonaire**: Rk (7065); Montkr (7417). — Suringar.

On Curaçao 37 finding places noted, on Aruba 14, on Bonaire 15.

Margarita (Johnston).

Baham., Antill., from Mexico to Columbia and Venezuela. (Symb.).

**Cordia cylindrostachya** R. et Schult. Syst. IV (1819) 459; Gris. Fl. 480. Karisjoeri.**Curaçao**: Rif (4643); B (4776); Mh (4885); Pih (5324b). — Aschenberg, — Suringar, — Britton & Shafer 2962.**Aruba**: Fonth (6466). — Suringar.**Bonaire**: R (7092); Kra (7447). — Suringar.

On Curaçao 47 finding places noted, on Aruba 8, on Bonaire 15.

Margarita. (Johnston).

Antill., Amer. cont. trop. (Symb.).

**Cordia globosa** H. B. K. Nov. Gen. III (1818) 76; Gris. Fl. 481. Oregano.

**Curaçao:** Vw (4706); Blw (4749); Bh (4759*d*). — Aschenberg, — Suringar, — Britton & Shafer 2973.

**Aruba:** Ok<sub>2</sub> (6225).

**Bonaire:** Rk (7054); Fk (7339*d*); Montkr (7389).

On Curaçao 31 finding places noted, on Aruba 1, on Bonaire 4.

Margarita. (Johnston).

Key Ins., Baham., Antill., Amer. cont. trop. (Symb.).

**Cordia Sebestena** Linn. Spec. (1753) 190; Gris. Fl. 478. Kara-waara spanjool, Manhage.

Cultivated. [Key Ins., Baham., Antill., Amer. centr. to Guiana.] (Symb.).

#### 7042. **Beureria** Jacq.

**Beureria succulenta** Jacq. Enum. (1760) 14; Gris. Fl. 481. Goeaana, Watakeeli, Watakeeri.

**Curaçao:** Vw (4712); Vd (4734); W<sub>2</sub> (5063); K (5454); K (5457). — Suringar, — Went 1333, — Britton & Shafer 2965.

**Aruba:** Mankz (6296); Ajh (6348). — Suringar.

**Bonaire:** Rk (7073). — Suringar.

On Curaçao 47 finding places noted, on Aruba 21, on Bonaire 12.

Antill. (Symb.); Baham. (Herb. Leiden).

#### 7051. **Tournefortia** Linn.

**Tournefortia gnaphalodes** R. Br. Prod. (1810) 496; Gris. Fl. 483. Kokorobaana, Tabaako die piskadoo.

**Curaçao:** Jh (5429). — Suringar.

**Aruba:** Mankz (6284); Serz (6510). — Suringar.

**Bonaire:** R (7181).

On lime near the sea; on Curaçao 4 finding places noted, on Aruba 6, on Bonaire 7.

Margarita. (Johnston).

Bermud., Florida austr., Key Ins., Baham., Antill., Mexico, Amer. centr. (Symb.).

**Tournefortia volubilis** Linn. Spec. (1753) 140; Gris. Fl. 484. Klaas moelaato, Raboe die kabaai.



**Curaçao:** Vw (4708); Blw (4746); Sc (4977); A (5143); Pek (5280). — Suringar, — Britton & Shafer 2972.

**Bonaire:** Rk (7058); Rk (7059); Montkr (7400); Montkr (7405). — Suringar.

On Curaçao 14 finding places noted, on Aruba 1, on Bonaire 9.

Margarita. (Johnston).

Key Ins., Baham., Antill., Yucatan, Amer. austr. (Symb.).

### 7052. *Heliotropium* Linn.

***Heliotropium campechianum*** H. B. K. Nov. Gen. III (1818) 68:  
*Heliotropium filiforme* Gris. Flor. (1861) 486.

**Curaçao:** V (4731); Cas (4798); M (4813); Wa<sub>3</sub> (5101*b*); Vat (5364). — Suringar, — Went 1346, — Britton & Shafer 3044.

**Aruba:** Ser k (6483*a*); Sav w (6518); Sav k (6542*c*). — Suringar.

On Curaçao 13 finding places noted, on Aruba 5, on Bonaire 1.

Margarita. (Johnston).

Antill., Campeche, Guatemala, Columbia, Galapagos. (Symb.).

***Heliotropium curassavicum*** Linn. Spec. (1753) 130; Gris. Fl. 486. Kokolodee sjimarón.

**Curaçao:** Rud (4603). — Suringar, — Britton & Shafer.

**Aruba:** Mankz (6293*a*); Bak k (6342). — Suringar.

**Bonaire:** Mat (7299). — Suringar.

Near the sea on Curaçao 6 finding places noted, on Aruba 4, on Bonaire 2.

Margarita. (Johnston).

Bermud., Key Ins., Baham., Antill., Amer. cont., Europ. austr., Africa, Australia, Ins. Pacif. (Symb.).

***Heliotropium humile*** R. Br. Prodr. I (1810) 497;

*Heliotropium fruticosum* Linn. Syst. X ed. II (1759) 913;  
Gris. Fl. 486. Salie.

**Curaçao:** Bh (4770); Hk (5131); KrhC (5601). — Suringar, — Lens 817, — Britton & Shafer 2961, 3039.

**Aruba:** Fontk (6477); Savk (6540). — Suringar.

**Bonaire:** Rk (7074); P Rw (7351). — Suringar.

On Curaçao 40 finding places noted, on Aruba 3, on Bonaire 5.

Antill., Amer. cont. trop. (Symb.).

***Heliotropium indicum*** Linn. Spec. (1753) 130; Gris. Fl. 485. Kokolodee.

**Curaçao:** Sh (4968). — Aschenberg, — Suringar.

**Bonaire:** (7327).

Margarita. (Johnston).

Tropical countries of both hemisph. (Symb.).

**Heliotropium parviflorum** Linn. Mant. II (1771) 201; Gris. Fl. 485.

**Curaçao:** Vw (4698); Bh (4759*a*); Pk (5476). — Suringar, — Lens 701, 808.

**Aruba:** (6213). — Suringar.

**Bonaire:** R (7011). — Suringar.

Margarita. (Johnston).

Amer. trop. (Symb.).

## 253. Verbenaceae.

7142. **Tamonea** Aubl.

**Tamonea curassavica** Pers. Syn. II. 139;

*Tamonea spinosa* Sw. Prod. Veg. Ind. Occ. 94;

*Tamonea verbenacea* Sw. Fl. Ind. Occ. II 1089; Gris. Fl. 493.

**Curaçao:** Gris. Fl.

Antigua. (Gris. Fl.).

7144. **Lantana** Linn.

**Lantana camara** Linn. Spec. (1753) 627; Gris. Fl. 495. Floor die sangger.

**Curaçao:** Mah (4859); Hk (5314); Kd (5336); Pk (5472). — Suringar, — Britton & Shafer 2964.

**Aruba:** Ok<sub>2</sub> (6223). — Suringar.

**Bonaire:** Rk (7037); Soebh (7264). — Suringar.

On Curaçao 33 finding places noted, on Aruba 9, on Bonaire 10.

Margarita. (Johnston).

In tropical America. (Symb.).

**Lantana canescens** H. B. K. Nov. Gen. et Spec. II. (1817) 209.

**Curaçao:** Hk (5131); Pik (5324*a*); Pk (5470). — Aschenberg, — Britton & Shafer 3151.

**Bonaire:** Rh (7033).

Venezuela. (H. B. K. Nov. Gen. et Spec.).

**Lantana involucrata** Linn. Cent. Pl. II (1756) 22; Gris. Fl. 496.

**Curaçao:** Riw (4686). — Went 1111, — Britton & Shafer 2944.

**Aruba:** Bakk (6335).

**Bonaire:** Suringar.

On Curaçao 16 finding places noted, on Aruba 10, on Bonaire 18.

Bermud., Florida austr., Key Ins., Baham., Antill., Amer. centr., Galapayos. (Symb.).

7145. **Lippia** Linn.

**Lippia reptans** H. B. K. Nov. Gen. et Spec. II (1817) 263; Gris. Fl. 495. Kamille sjimarón, Maisji raboe.

**Curaçao:** St (5054r). — Suringar, — Went 1347, 1339, — Lens 843, — Britton & Shafer 2990.

**Aruba:** Siv (6307). — Suringar.

**Bonaire:** R (7137).

Baham., Antill., Amer. cont. trop. (Symb.).

7148. **Bouchea** Cham.

**Bouchea Ehrenbergii** Cham. in Linnaea VII (1832) 253; Gris. Fl. 493. Jeerba staasia, Sjonleena.

**Curaçao:** Mo (4816b); Bah (5167); Mi (5308); Ent (5434f). — Aschenberg, — Suringar.

Margarita. (Johnston).

Baham., Antill., from Mexico to Venezuela. (Symb.).

7151. **Stachytarpheta** Vahl.

**Stachytarpheta jamaicensis** Vahl. Enum. I (1804) 206; Gris. Fl. 494;

*Stachytarpheta indica* Vahl. Enum. I (1804) 206.

**Curaçao:** Vat (5349a).

**Bonaire:** Fh (7247). — Suringar.

Margarita. (Johnston).

Bermud., Florida austr., Key Ins., Baham., Antill., Amer. centr. to Guiana, Afr. and Asia trop. (Symb.).

**Stachytarpheta sanguinea** Mart. et Schau in DC. Prodr. XI. (1847) 564.

**Aruba:** Ajw (6352); Ajw (6353).

Brasilia. (Ind. Kew.).

7153. **Priva** Adans.

**Priva lappulacea** Pers. Syn. II (1807) 139;

*Priva echinata* Juss. in Ann. Mus. Par. VII (1806) 69; Gris. Fl. 493; Boldingh. I 170.

**Curaçao:** Hatot (5340*a*). — Suringar.

Margarita. (Johnston).

Bermud., Florid. austr., Baham., Antill., Amer. cont. trop. (Symb.).

7162. **Duranta** Linn.

**Duranta erecta** Linn. Spec. (1753) 637. Adonis.

Cultivated. [Amer. trop.] (Symb.).

7186. **Vitex** Linn.

**Vitex umbrosa** Sw. Prod. Veg. Ind. Occ. 93; Gris. Fl. 502. Foema.

**Curaçao:** Wk (4945); C (5015); Beh (5514); Beh (5533). -- Suringar.

Jamaica, Cuba. (Gris Fl.).

7205. **Avicennia** Linn.

**Avicennia nitida** Jacq. Enum. Pl. Carib. (1760) 25; Gris. Fl. 502. Manggel blanko.

**Curaçao:** Suringar.

**Bonaire:** Lagz (7462), Zoutz (7500).

On Curaçao 4 finding places noted, on Bonaire 3; not observed on Aruba.

Margarita. (Johnston).

Amer. trop., Afr. trop. (Symb.).

## 254. Labiatae.

7264. **Leonotis** R. Br.

**Leonotis nepetifolia** R. Br. in Ait. Hort. Kew. ed. II, III (1811) 409; Gris. Fl. 492. Sabadieja.

**Curaçao:** Suringar.

**Bonaire:** Suringar.

Margarita. (Johnston).

Warmer countries of both hemisph. (Symb.).

7342. **Hyptis** Jacq.

**Hyptis pectinata** Poit in Ann. Mus. Par. VII (1806) 474. t. 30; Gris. Fl. 489.

**Curaçao:** W (4930); Kit (5501).

Margarita. (Johnston).

Amer. trop., Afr. trop., Asia austro-or., Ins. Marian. (Symb.).

**Hyptis suaveolens** Poit. in Ann. Mus. Par. VII (1806) 472. t. 29. f. 2; Gris. Fl. 489. Sanggoera.

**Curaçao**: Hk (5074); Wa<sub>3</sub> (5106); Aw (5162); Dh (5630). — Suringar, — Went 1350, — Lens 833, — Britton & Shafer 2995.

**Aruba**: Sav (6405); Ajw (6453). — Suringar.

**Bonaire**: R (7129); Sergh (7458).

Baham., Antill., Amer. cont. trop., Asia austro-or. (Symb.).

7343. **Marsypianthes** Mart.

**Marsypianthes chamaedrys** O. Ktze. Rev. II (1891) 524;

*Marsypianthes hyptoides* Mart. in Benth. Lab. (1832) 64; Gris. Fl. 487.

**Aruba**: (6207); L (6264a); Beh (6428i); Savh (6531).

Antill., Amer. cont. trop. (Symb.).

7366. **Ocimum** Linn.

**Ocimum gratissimum** Linn. Spec. (1753) 597.

Cultivated. [India orient.] (Ind. Kew.).

**Ocimum sanctum** Linn. Mant. I (1767) 85.

Cultivated. [Asia trop. and Nova Guinea.] (Symb.).

## 256. Solanaceae.

7401. **Physalis** Linn.

**Physalis angulata** Linn. Spec. (1753) 183; Gris. Fl. 436.

**Curaçao**: Bah (5170); Bat (5238); Kit (5503). — Aschenberg, — Went 1335, — Britton & Shafer 3076.

**Aruba**: Suph (6392); Beh (6428).

Warmer countries of both hemisph. (Symb.).

**Physalis pubescens** Linn. Spec. (1753) 183; Gris. Fl. 435.

**Curaçao**: (5736). — Aschenberg.

**Aruba**: Mankz (6280); Ajh (6351); Beh (6428).

**Bonaire**: Karh (7304).

Tropical America. (Symb.).

**Physalis turbinata** Medik. in Act. Acad. Theod. Palat. IV (1780) 188. t. 5. f. 2.

**Curaçao**: Britton & Shafer. 3072, 3107.

**Bonaire**: R (7083); Joh (7303).

Antill., Nova Granata. (Symb.).

7404. **Capsicum** Linn.

**Capsicum frutescens** Linn. Spec. (1753) 189; Gris. Fl. 436.  
Cultivated. [Tropical countries of both hemisph.] (Symb.).

7407. **Solanum** Linn.

**Solanum argillicolum** Dunal. in A. D C. Prodr. XIII. 1 (1852)  
236. Bataata die soembi.

**Curaçao:** Vw (4719); V (4721); (5052); A (5151). — Suringar, —  
Read, — Von Rohr, — Britton & Shafer 2979.

**Aruba:** Ok<sub>2</sub> (6239); Nie k (6499). — Suringar.

**Bonaire:** Rh (7077).

On Curaçao found in 19 places, on Aruba in 9, on Bonaire in 3.

St. Barthélemy, Brasilia. (Symb.).

**Solanum lycopersicum** Linn. Spec. (1753) 185. Tomati.  
Cultivated. [Amer. cont. trop.] (Symb.).

**Solanum Melongena** Linn. Spec. (1753) 186. Berrehein, Bou-  
langer.

Cultivated. [Asia trop.] (Symb.).

**Solanum nigrum** var. **americanum** O. E. Schulz in Urb. Symb.  
VI (1909) 160;

*Solanum nigrum* var. *nodiflorum* Linn. Spec. (1753) 186;  
Bolangh I 177;

*Solanum nodiflorum* Dunal Hist. Sol. (1813) 151; Gris. Fl. 437.  
Maloieda.

**Curaçao:** St (5054a); Kit (5502). — Suringar.

**Aruba:** Savw (6521).

**Bonaire:** R (7135).

Margarita. (Johnston).

Baham., Antill., from Mexico to Guiana. (Symb.).

**Solanum odoriferum** Vell. Fl. Flum. 85.

Cultivated. [Brasilia.] (Ind. Kew.).

**Solanum torvum** Sw. Prod. Veg. Ind. Occ. (1788) 47; Gris. Fl. 441.

**Curaçao:** (Symb.).

Key Ins., Baham., Antill., Amer. centr. and austro-sept.,  
Guinea, Asia austro-orient. (Symb.).

**Solanum tuberosum** Linn. Spec. (1753) 185.

Cultivated. [Andes americ.] (Symb.).

7415. **Datura** Linn.

**Datura Metel** Linn. Spec. (1753) 179; Gris. Fl. 434. Belladonna, Jeerba stinki.

**Curaçao**: Suringar.

**Aruba**: Ok<sub>2</sub> (6220); Paardw (6560). — Aschenberg, — Suringar. Margarita. (Johnston).

Amer. trop., Afr. trop., Eur. austr., India or. (Symb.).

7434. **Nicotiana** Linn.

**Nicotiana Tabacum** Linn. Spec. (1753) 180.

Cultivated. [Amer. austr.] (Symb.).

7436. **Petunia** Juss.

**Petunia violacea** Lindl. Bot. Reg. t. 1626.

Cultivated. [Argentina.] (Ind. Kew.).

## 257. Scrophulariaceae.

7496. **Russelia** Jacq.

**Russelia juncea** Zuccar in Flora XV (1832) II Beibl. 99.

Cultivated. [Mexico.] (Symb.).

7534. **Stemodia** Linn.

**Stemodia durantifolia** Sw. Obs. (1791) 240; Gris. Fl. 429.

**Curaçao**: Suringar, — Britton & Shafer 3016.

Americ. tropic. (Symb.).

**Stemodia maritima** Linn. Syst. X ed. II (1759) 1118; Gris. Fl. 429. Torra.

**Curaçao**: Nasw (4683); Mt (4863); Bat (5233). — Aschenberg, — Suringar, — Britton & Shafer 3031.

Baham., Antill., Amer. austr. trop. (Symb.).

7574. **Capraria** Linn.

**Capraria biflora** Linn. Spec. (1753) 628; Gris. Fl. 427. Tantsji.

**Curaçao**: Rud (4605). — Suringar, — Went 1106, 1355, — Lens 702, — Britton & Shafer 2932.

**Aruba**: Mankz (6293); Siw (6315). — Suringar.

**Bonaire:** Rk (7032). — Suringar.

On Curaçao noted in 20 places, on Aruba in 11, on Bonaire in 6.

Margarita. (Johnston).

Bermud., Florida austr., Key Ins., Baham., Antill., Amer. cont. trop. (Symb.).

### 7576. **Scoparia** Linn.

**Scoparia annua** Cham. et Schl. in Linnaea II. (1827) 603.

**Curaçao:** W (5581). — Aschenberg, — Britton & Shafer 3022.

**Aruba:** Ok<sub>2</sub> (6226); Mankz (6279); Ajw (6343g); Savw (6519a); Mansz (6557). — Suringar.

**Bonaire:** R (7134).

Brasilia. (D C. Prodr. X).

## 258. **Bignoniaceae.**

### 7733. **Tecoma** Juss.

**Tecoma Chrysantha** DC. in Prodr. IX (1845) 221. Kiebrahaatsja.

**Curaçao:** Mah (4861); Sc (4979); Aw (5142); Hk (5309); Beh (5511); Beh (5516).

**Aruba:** L (6265); Mirh (6458).

**Bonaire:** Macb (7118); Joh (7204). — Suringar.

On Curaçao 10 finding places noted, all in the Western part, on Aruba 4, on Bonaire 10.

Venezuela. (DC. Prodr. IX).

### 7740. **Stenolobium** D. Don.

**Stenolobium stans** Seem. Journ. Bot. I (1863) 88. Kelki heel.

Cultivated. [Warmer countries of America.] (Symb.).

### 7759. **Crescentia** Linn.

**Crescentia Cujete** Linn. Spec. (1753) 626; Gris. Fl. 445. Kallebas rondo.

**Curaçao:** Suringar.

**Aruba:** C (6414); C (6416).

**Bonaire:** Johw (7196). — Suringar.

On Curaçao noticed in 27 places, on Aruba in 5, on Bonaire in 11.

Margarita. (Johnston).

Bermud., Key Ins., Antill., Amer. cont. trop. (Symb.).



259. **Pedaliaceae.**7777. **Sesamum** Linn.

**Sesamum orientale** Linn. Spec. (1753) 634; Gris. Fl. 458.  
Sjosjolie.

Cultivated. [Asia austro-orient.] (Symb.).

266. **Acanthaceae.**7908. **Elytraria** Michx.

**Elytraria squamosa** Lindau in Engl. u. Prantl, Nat. Pflanzenfam. Nachtr. (1897) 304;

*Tubiflora squamosa* O Ktze. Rev. 500; Lindau in Engl. u. Prantl, Nat. Pflanzenfam. IV. 3b. 289;

*Elytraria tridentata* Vahl Enum. (1804) I. 107; Gris. Fl. 451.

**Curaçao**: Vw (4697); Mk (4886); Vat (5093); Wo (5438). — Suringar, — Went 1317, — Lens 809, — Britton & Shafer 2978.

**Aruba**: L (6266); Mirh (6453*f*).

**Bonaire**: R (7016).

Noticed on Curaçao in 21 places, on Aruba in 9, on Bonaire in 11.

Tropic. Americ. and Afr. occid. trop. (Symb.).

7965. **Ruellia** Linn.

**Ruellia paniculata** Linn. Spec. (1753) 635; Gris. Fl. 451.

**Curaçao**: Suringar.

Cuba, Jamaica, from Columbia and Venezuela to Mexico. (Symb.).

**Ruellia tuberosa** Linn. Spec. (1753) 635; Gris. Fl. 452. Pistol, Skopèt.

**Curaçao**: B (4778); Mok (4820*a*); St (5054*g*); A (5153); Bat (5225); Sit (5297); Hatot (5344); Ent (5434*e*). — Suringar, — Went 1337, — Lens 805, — Britton & Shafer.

**Bonaire**: R (7113).

Margarita. (Johnston).

Antill., from Guiana, Venezuela, Peru and Columbia to Mexico. (Symb.).

## 267. Myoporaceae.

8111. **Bontia** Linn.

**Bontia daphnoides** Linn. Spec. (1753) 638; Gris. Fl. 503. Olieba, Olijfi, Parwa.

**Curaçao**: Nask (4691). — Suringar, — Britton & Shafer 3052.

**Aruba**: Paardw (6556). — Suringar.

**Bonaire**: Bonz (7496). — Suringar.

On Curaçao 20 finding places noted, on Aruba 5, on Bonaire 2.

Baham., Antill., Guiana. (Symb.).

## 269. Plantaginaceae

8116. **Plantago** Linn.

**Plantago major** Linn. Spec. (1753) 112; Gris. Fl. 389.

Cultivated. [In almost all parts of both hemisp.] (Symb.).

## 270. Rubiaceae.

8283. **Randia** Linn.

**Randia aculeata** Linn. Spec. (1753) 1192; Gris. Fl. 318. Leele, Raboe die kabaai, Wakoera.

**Curaçao**: Blw (4752); Mh (4870). — Suringar, — Britton & Shafer 3043.

**Bonaire**: Rh (7034); R (7165). — Suringar.

On Curaçao 48 finding places noted, on Bonaire 25; not observed on Aruba.

Margarita. (Johnston).

Bermud., Florida austr., Key Ins., Baham., Antill. (Symb.).

Venezuela. (Johnston).

8363. **Antirrhoea** Comm.

**Antirrhoea acutata** DC. Symb. I (1899) 439;

*Stenostomum viscosum* Gris. Fl. (1861) 334. Koetsjaara, Plaaka sjikietoe.

**Curaçao**: Sik<sub>2</sub> (5202); Sik<sub>2</sub> (5243). — Suringar, — Britton & Shafer 3081.

**Aruba:** Fonth (6467); Fontt (6475). — Suringar.

**Bonaire:** Rk (7061). — Suringar.

On calcareous soil; on Curaçao found in 13 places, on Aruba in 6, on Bonaire in 4.

Anguilla, Guadeloupe, Désirade. (Symb.).

8370. **Machaonia** H. B.

**Machaonia Ottonis** Urb. in Symb. Antill. V (1908) 511. Paaloe die heeroe.

**Curaçao:** (4024b); Mh (4879); Wo (4932); Sc (4982); Kk (5406); Kk (5410). — Suringar, — Britton & Shafer 3144.

**Bonaire:** Rk (7076); Soebh (7282). — Suringar.

Found on Curaçao in 23 places, on Bonaire in 11 in the hilly part. Not observed on Aruba.

Venezuela. (Symb.).

8371. **Erithalis** Linn.

**Erithalis fruticosa** Linn. Syst. X ed. II (1759) 930; Gris. Fl. 336. Loembra blanco.

**Curaçao:** Rif (4646); Vd (4733); Mk (4890); Bat (5241). — Suringar, — Britton & Shafer 2940.

**Aruba:** Mand (6288); Mand (6291); Camk (6370). — Suringar.

**Bonaire:** Soebh (7270); Fk (7341); Lagz (7469).

On Curaçao 21 finding places noted, on Aruba 3, on Bonaire 3.

Margarita. (Johnston).

Florida, Key Ins., Baham., Antill., Amer. centr. (Symb.).

8384. **Ixora** Linn.

**Ixora coccinea** Linn. Spec. (1753) 110.

Cultivated. [Asia austro-orient.] (Symb.).

8391. **Strumpfia** Jacq.

**Strumpfia maritima** Jacq. Enum. Pl. Carib. (1760) 28; Gris. Fl. 336. Bai no boolbee.

**Curaçao:** Sk (5043); Kk (5403). — Suringar, — Britton & Shafer 3030.

**Aruba:** Locality unknown. — Suringar.

**Bonaire:** Montkr (7426); Skr (7428); Skr (7433).

Key Ins., Baham., Antill., Yucatan. (Symb.).

8463. **Morinda** Linn.

**Morinda Royoc** Linn. Spec. (1753) 176; Gris. Fl. 347;

*Morinda umbellata* Linn. Spec. 176. Bataata heel, Loembra maatsjoe, Paaloe zapateero, Pam die diaabel.

**Curaçao**: Bh (4761). — Suringar, — Went 1334, — Lens 827, — Britton & Shafer 2941.

**Aruba**: Fontk (6482); Serk (6505).

**Bonaire**: Plak (7276); Bolko (7365). — Suringar.

Especially on lime; on Curaçao 21 finding places noted, on Aruba 2, on Bonaire 2.

Jamaica, Cuba, Haiti. (Gris. Fl.).

8468. **Ernodea** Swartz.

**Ernodea litoralis** Sw. Prodr. (1788) 29; Gris. Fl. 347.

**Bonaire**: Montkr (7393); Skr (7429); Skr (7434).

Florida austr., Key Ins., Baham., Antill., Honduras, Yucatan. (Symb.).

8471. **Diodia** Linn.

**Diodia rigida** Cham. et Schlecht. in Linnaea III (1828) 341; Gris. Fl. 348.

**Curaçao**: Cas Ch (4795); H (5068); Bah (5171); Sik<sub>2</sub> (5262 b); Pih (5328); Krh (5599b); KrhC (5610a); Dh (5629). — Suringar, — Britton & Shafer 3154.

**Aruba**: Mirh (6452c); Savk (6546). — Suringar.

**Bonaire**: PRw (7347).

Margarita. (Johnston).

Antill., Amer. cont. trop. (Symb.).

8473. **Borreria** G. F. W. Mey.

**Borreria laevis** Gris. Kar. in Goett. Abh. VII (1857) 231.

**Curaçao**: Blt (4901); Hatot (5343); Vat (5354); Zt (5387). — Aschenberg, — Britton & Shafer 2997, 3005.

**Bonaire**: Brw (7314).

Amer. tropic. (Symb.).

**Borreria ocymoides** DC. Prodr. IV (1830) 544;

*Borreria parviflora* G. F. W. Mey Prim. Ess. (1818) 83. t. 1. f. 1; Gris. Fl. 349.

**Curaçao**: M9, M15.

**Aruba:** (6201) Bek (6420).  
**Bonaire:** R (7004).  
 Amer. trop., Java. (Symb.).

8475. **Spermacoce** Gärtn.

**Spermacoce tenuior** Linn. Spec. (1753) 102; Gris. Fl. 349.

**Curaçao:** H<sub>2</sub> (5120); Bah (5173); Bat (5221*a*); Ent (5434); Krk (5591*c*). — Suringar, — Britton & Shafer 2984, 3071.

**Aruba:** Siw (6311*a*); Siw (6319); Bek (6422); Mirh (6453*h*); Nick (6503). — Suringar.

**Bonaire:** R (7005); R (7136); Bolko (7359).

Margarita. (Johnston).

Bermud., Baham., Antill., from Caroliniana and Louisiana to Brasilia. (Symb.).

8479. **Mitracarpus** Zucc.

**Mitracarpus hirtus** D C. Prodr. IV (1830) 572 ex Schumann Flor. Bras. VI. 6. p. 84;

*Mitracarpus villosus* Cham. et Schlecht. in Linnaea III (1828) 363; Boldingh I 194; Gris. Fl. 350.

**Curaçao:** Beh (5534*a*); Wh (5572); M 16. — Suringar, — Britton & Shafer 3026.

**Aruba:** L (6264); Ajw (6343*d*); Mirh (6445*e*); Nick (6455); Savw (6519*c*); Savh (6528). — Suringar.

Antill., Cuba and Mexico to Equador and Venezuela. (Gris. Fl.).

275. **Cucurbitaceae.**8580. **Ceratosanthes** Adans.

**Ceratosanthes corniculata** Cogn. in D C. Monogr. III (1881) 724;

*Ceratosanthes tuberosa* Spreng. Syst. Veg. 3. (1774) 18; Gris. Fl. 289; Johnston (Margarita). Bataata djoekoe, Fantasiae, Leengga die tsoetsjoebi.

**Curaçao:** Vw (4707); Si (5196). — Suringar, — Lens 838. — Britton & Shafer 3116.

**Aruba:** Ok<sub>2</sub> (6224).

Margarita. (Johnston).

Martinica, Grenada, Trinidad, Venezuela. (Cogn. 1881).

8591. **Momordica** Linn.

**Momordica Charantia** Linn. Spec. (1753) 1009; Gris. Fl. 287.  
 M a m m o o t i k a.

**Curaçao:** (5084).

Margarita. (Johnston).

In all tropical and subtropical countries. (Symb.).

8598. **Citrullus** Forsk.

**Citrullus vulgaris** Schrad. in Eckl. et Zeyh. Enum. II (1836) 279. Patieja.

Cultivated. [Afr. trop. and austr.] (Symb.).

8599. **Cucumis** Linn.

**Cucumis Anguria** Linn. Spec. (1753) 1011; Gris. Fl. 288. Wild kom kommer.

**Curaçao:** Suringar, — Britton & Shafer 3142.

**Aruba:** Locality unknown, — Suringar.

Margarita. (Johnston).

Key Ins., Baham., Antill., Amer. cont. calidior. (Symb.).

**Cucumis Melo** Linn. Spec. (1753) 1011.

Cultivated. [Afr. and Asia trop.] (Symb.).

8622. **Cucurbita** Linn.

**Cucurbita maxima** Duchesne in Lam. Encycl. II (1786) 151. Pompoen.

Cultivated. [Asia merid.] (Cogn. 1881).

## 280. Compositae.

8818. **Mikania** Willd.

**Mikania scandens** Wild. III. 3 (1804) 1743;

*Micania orinocensis* H. B. K. Nov. Gen. IV (1820) 134; Gris. Fl. 364.

**Curaçao:** Aschenberg.

Cultivated. [America.] (Symb.).

8873. **Egletes** Cass.

**Egletes prostrata** O.K. in Rev. Gen. plant. I (1891) 334;

*Egletes domingensis* Cass. in Dict. Sc. Nat. XIV. 256; Gris. Fl. 380.

**Curaçao:** Pit (4840). — Aschenberg, — von Rohr, — Britton & Shafer 3011, 3129.

**Aruba:** (6202). — Suringar.

Jamaica, Antigua, Haiti to French Islands, Trinidad, Venezuela equat., Brasilia. (Gris. Fl.).

8915. **Gundlachia** A. Gray.

**Gundlachia corymbosa** Britton in manuscr.

**Curaçao:** Wo (4937); Pek (5286); Pez (5288); Wh (5579). — Suringar, — Britton & Shafer 2936.

**Aruba:** Serk (6506).

Portorico. (Britton).

9101. **Lagascea** Cav.

**Lagascea mollis** Cav. in Anal. Cienc. Nat. VI (1803) 333. t. 44.

**Curaçao:** Bat (5214); Hatot (5340). — Aschenberg, — Suringar, — Britton & Shafer 3122.

Antill., Amer. cont. trop. (from. Ind. or.) (Symb.).

9129. **Melampodium** Linn.

**Melampodium bonairensis** Boldingh. (n. sp.) herbaceum; ramis linea pilosa instructis; foliis petiolatis, deltoideis ovatis, basis cuneatis, crenato-serratis, supra scabris, subtus hispidulis; palea akenium obtegente apice obsolete spinuloso-dentata.

Herba ramis dichotomis, sulcatis, linea pubescente notatis. Folia opposita, pedunculata, deltoidea ovata, basi cuneata, crenato-serrata, membranacea, supra callosa punctata et scabra, subtus hispidula, 2–5 cm. longa, 1–2 cm. lata.

Capitula corymbosa, pedunculata, 0,3 cm. longa. Pedunculi 1–3 cm. longi, puberuli. Involucrum pentaphyllum, foliolis inaequalibus, acutis, integerrimis, nervosis, hispidulis. Receptaculum planum, paleaceum; paleis oblongis, obtusis, nervosis, glabris, margine ciliatis.

Flosculi masculi non vidi. Flosculi feminei: Corolla flava, tubo 0,05 cm. longo, ligula 0,15 cm. longa. Stigma 0,1–0,15 cm. longa. Akenia palea arcte inclusa, 0,25 cm. longa, trigona, apice irregulariter tuberculata.

Plate IX.

**Curaçao:** Hills near Domingito (5638); Malpais (M. 14) (type).

**Bonaire:** Rincon (7003, 7401).

9138. **Parthenium** Linn.

**Parthenium Hysterophorus** Linn. Spec. (1753) 988; Gris. Fl. 369. Bassoora die lieber.

**Curaçao:** No (5434); Ent (5440). — Aschenberg, — Suringar, — Lens 816, — Versluys 1422.

**Aruba:** Locality unknown. — Suringar.

**Bonaire:** Suringar.

Margarita. (Johnston).

Bermud., Florida, Key Ins., Baham., Antill., Amer. cont. trop. (Symb.).

9146. **Ambrosia** Linn.

**Ambrosia paniculata** L. Cl. Rich. in Michx. Flor. Bor. Americ. II (1803) 183. (Symb. Antill. VII. p. 84).

Cultivated. [Antill., Mexico, Guatemala, Nicaragua, Columbia, Ecuador, Peruvia, Venezuela.] (Symb.).

9166. **Eclipta** Linn.

**Eclipta alba** Hassk. Pl. Jav. Rar. (1848) 528; Gris. Fl. 370.

**Curaçao**: Bat (5221); M6; Kl. St. Martha. — Suringar, — Britton & Shafer 2985.

**Aruba**: Fontt (6475c). — Suringar.

**Bonaire**: R (7138). — Suringar.

Margarita. (Johnston).

In warmer countries of both hemisph. (Symb.).

9174. **Isocarpha** R. Br.

**Isocarpha oppositifolia** R. Br. Trans. Linn. Soc. vol. 12 (1816) 110; Gris. Fl. 376. Magdalena.

**Curaçao**: C (5013); H<sub>2</sub> (5110a); A<sup>^</sup> (5149); A (5159); Pk (6378); Jak (5641). — Suringar, — Lens 841, — Britton & Shafer 2945.

**Aruba**: Suringar.

**Bonaire**: R (7007); Fk (7342). — Suringar.

On Curacao 18 finding places noted, on Aruba 1, on Bonaire 18.

Margarita. (Johnston).

Baham., Jamaica, Trinidad. (Johnston).

9192. **Wedelia** Jacq.

**Wedelia Jacquini** L. Cl. Rich. in Pers. Syn. II (1807) 490;

*Wedelia buphthalmoides* Gris. Flor. (1861) 372; Boldingh I 202; Johnston (Margarita) 269.

**Curaçao**: Vd (4735); Wh (4950); Be (5559).

Margarita. (Johnston).

Antill., Panama, Venezuela, Guiana. (Symb.).

9207. **Spilanthes** Jacq.

**Spilanthes urens** Jacq. Enum. Pl. Carib. (1760) 28; Gris. Fl. 376.

**Curaçao**: Pit (4839). — Suringar.

St. Vincent, Haiti, New-Granada, Peru, Brasilia. (Gris. Flor.).

9218. **Verbesina** Linn.

**Verbesina alata** Linn. Spec. (1753) 901; Gris Fl. 374.

**Curaçao**: (Symb.).

Margarita. (Johnston).

Antill. (Symb.).



9224. **Synedrella** Gärtn.

**Synedrella nodiflora** Gärtn. Fruct. II (1791) 456. t. 171; Gris. Fl. 377.

**Curaçao:** H<sub>2</sub> (5112); Hatot (5346). — Aschenberg, — Suringar.

**Aruba:** (6208); Mirh (6445); Mirh (6447b); Savh (6537). — Suringar.

**Bonaire:** R (7015).

Margarita. (Johnston).

Florida, Baham., Antill., Amer. cont. trop. (Symb.).

9237. **Bidens** Linn.

**Bidens cynapiifolius** H. B. K. Nov. Gen. et Spec. IV (1820) 235; *Bidens bipinnatus* Linn. Spec. (1753) 832; Gris. Fl. 373. Pieterselie.

**Curaçao:** Hk (5083); KrhC (5608). — Aschenberg, — Suringar, — Britton & Shafer 3117.

**Aruba:** Suph (6392a); Mirh (6445c); Mirh (6447a). — Suringar.

**Bonaire:** R (7014).

Warmer countries of both hemisph. (Symb.).

9316. **Porophyllum** Adans.

**Porophyllum macrocephalum** P. DC. Prodr. V (1836) 648. Mampoyerietoe.

**Curaçao:** Cas (4768); Zt (5382f); Kit (5493). — Suringar, — Lens 831, — Britton & Shafer.

**Bonaire:** R (7008); Sergh (7459).

Arizona, Mexico, Amer. centr. (Symb.).

9319. **Pectis** Linn.

**Pectis brachycephala** Urb. Symb. Antill. V (1907) 268.

**Aruba:** Nick (6501). — Suringar.

**Pectis febrifuga** van Hall. in Ann. Hort. et Bot. ou Flore Jard. des Pays-Bas vol. IV (1861) 33 with tabl. Theebiek.

**Curaçao:** V (4729); Vat (5377); Zt (5382). — Aschenberg, — Suringar, — Went 1345, — Lens 824, — Versluys 1418, — Britton & Shafer 3050.

**Aruba:** Ok<sub>2</sub> (6249); Beh (6428e). — Suringar.

**Bonaire:** R (7144); Plh (7296). — Suringar.

Jamaica, St. Thomas, Water Island, St. Croix, Columbia. (Symb.); Saba (Bolding I).

**Pectis linifolia** Linn. Syst. X ed. II (1759) 1221;

*Pectis punctata* Jacq. Enum. (1760) 28; Gris. Fl. 377. Theebiek maatsjoe.

**Curaçao:** Bah (5168); Vat (5378); Zt (5382a); Caz (5413). — Aschenberg, — Suringar, — Lens 825, — Versluys 1419, — Britton & Shafer 2910.

**Aruba:** Mirh (6445f); Mirh (6447); Savk (6542b).

**Bonaire:** R (7019); PRw (7354).

Margarita. (Symb.).

Baham., Antill., Venezuela, Nova Granata, Galapagos, Yucatan, California infer., Arizona. (Symb.).

**Pectis prostrata** Cav. Icon. IV (1797) p. 12, tab. 324; Gris. Fl. 378. Theebiek maatsjoe.

**Curaçao:** Sk (5044a); Wa<sub>3</sub> (5104); Vat (5376); Krk (5591d). — Britton & Shafer 2974.

**Bonaire:** Rh (7079); Rh (7080); R (7143); PRw (7353).

Florida, Amer. sept., Cuba, Arizona and New Mexico, Mexico, Yucatan, Guatemala, Venezuela. (Symb.).

9540. **Trixis** Gmel.

**Trixis frutescens** P. Br. ex Spreng. Syst. vol. 3 (1826) 501;

*Trixis radiale* Lag. Amen. nat. vol. 1 (1811) 36.

**Aruba:** Camk (6378). — Suringar.

Margarita. (Johnston).

Trop. Amer. (Johnston).

9596. **Lactuca** Linn.

**Lactuca intybacea** Jacq. Icon. Pl. Rar. I (1781) t. 162;

*Brachyramphus intybaceus* P. DC. Prodr. VII (1838) 177; Gris. Fl. 384. Salade andijvie.

**Curaçao:** Sc (4981); Sik (5186). — Suringar, — Britton & Shafer.

**Aruba:** Ok<sub>2</sub> (6238); Paardw (6559).

**Bonaire:** R (7378).

Margarita. (Johnston).

Baham., Antill., Amer. centr. (Symb.).

**SECOND PART**

**HISTORICAL**



# HISTORICAL

## CHAPTER I

### HISTORICAL SKETCH.

The islands Aruba and Bonaire have rarely been visited by botanists; from Curaçao several collections exist. In the Dutch botanical literature I did not see other publications except those mentioned in this Chapter.

*I. Urban*, *Symbolae Antillanae*, mentions that *J. Ph. B. von Rohr* (about 1737—1793) collected in Curaçao and that also *F. Bredemeyer* (1758—1839), *J. Read* and *H. F. A. Baron von Eggers* (1893) visited Curaçao.

For the collections of these persons I refer to Ch. II.

Later botanists who visited the colony Curaçao are:

*Prof. Dr. W. F. R. Suringar* 1884—1885.

*Prof. Dr. F. A. F. C. Went* 1901.

*Miss A. Lens* 1907.

*Dr. I. Boldingh* 1909—1910.

*Prof. Dr. N. L. Britton* and *Dr. J. A. Shafer* 1913, while *Aschenberg* and *W. Versluys* made collections as inhabitants of Curaçao and *Dr. P. J. van Breemen* has been especially meritorious by accurately studying the marine phanerogamous plants. Their work as well as the collections of the other persons mentioned are treated in Ch. II.

About the results of these investigations and collections the following may suffice.

An account of *Suringar's* journey, published in the *Kon. Ned. Aardr. Gen.* (Royal Dutch Geogr. Soc.) Series II, Part II and III (1885—1886) contains an introduction; the publication has not been continued beyond the first 50 pages and only a small part of the flora has been described.

Published in the *Verslagen en Verhandelingen der Kon. Academie van Wetenschappen te Amsterdam* (Proc. Royal Acad. Amsterdam)

are articles on the Melocacti of the Dutch West Indian Islands. Of these *W. F. R. Suringar* and *J. V. Suringar* published the following series:

*W. F. R. Suringar*: Melocacti novi ex insulis archipelagi indici-occidentalis neerlandicis Curaçao, Aruba et Bonaire vel Bydrage tot de Kennis der Melocacti, in:

Verslagen en Mededeelingen der Koninklijke Academie van Wetenschappen Afd. Natuurkunde, Amsterdam.

3<sup>de</sup> Reeks Deel II (1885) p. 183—195.

Deel VI (1889) p. 408—461 c. tab.

Deel IX (1892) p. 406—412 c. tab. geogr.

Verhandelingen der Koninklijke Academie van Wetenschappen te Amsterdam. II Sectie. Deel V (1896) Nr. 3. p. 1—46. c. tab. 2.

Verslagen der Natuurkundige afdeling der Koninklijke Academie van Wetenschappen. Amsterdam. Deel VI (1897) p. 178—192 c. tab.

Illustrations du genre Melocactus Livr. I.

*J. Valckenier Suringar*:

Contributions à l'étude des espèces du genre Melocactus des Indes Néerlandaises occidentales: Verhandelingen der Koninklijke Akademie van Wetenschappen. Amsterdam. Deel VIII (1901) p. 1—40. Het Melocactusonderzoek, in Nederlandsch Kruidkundig Archief. Derde Serie. 2<sup>de</sup> deel. 1903. p. 1047—1058 c. 1 tab.

Nouvelles contributions à l'étude des espèces du genre Melocactus des Indes Néerlandaises Occidentales. Verhandelingen der Koninklijke Akademie van Wetenschappen. Amsterdam. Tweede Sectie. Deel XVI. Nr. 3. 1910.

Illustrations du genre Melocactus. Livr. II.

Part of the plants collected by *Suringar* are mentioned by *Urban* in his *Symbolæ Antillanæ*.

The other collections hat not been used by authors yet; they are treated in this flora together with *Suringar*'s collection. In the older literature on the Dutch W. I. Islands something is found on the flora there. With real pleasure I read and re-read after my journey *Teenstra*'s work <sup>1)</sup>, in which some 90 plants are described in a manner which for a non-botanist is very sufficient. From most of the descriptions the plants may be recognised, especially since their wellknown indigenous names are given. Like in *Teenstra*'s work much attention is paid to the medi-

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<sup>1)</sup> M. D. Teenstra: De Nederlandsche West Indische eilanden in derzelve tegenwoordige toestand. Amsterdam 1836—1837.

cial use of many plants in *Simon's* book 1) which also gives an extensive list of vernacular and Latin plant names, composed by *Dr. N. Anslin*, military physician. That in such a list many inaccuracies in the determinations occur is obvious.

I also became acquainted with a publication by *Hurtado* 2), who in an appendix gives a survey of the Curaçao flora. This appendix contains a very large number of mistakes.

It seemed preferable not to quote the plants from the three publications mentioned and to elaborate in this flora only the data from recent collections, found in the Utrecht herbarium.

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1) G. J. Simons. Beschrijving van het eiland Curaçao. Oosterwolde 1868.

2) C. Hurtado. Compendio di botanica elemental. Curazao. Benthencourt e Hyos. 1891.

## CHAPTER II

### NOTES ON THE COLLECTIONS.

#### Collection W. F. R. Suringar.

*Dr. J. Valckenier Suringar* has been so kind to put at my disposal the diary of his late father *Prof. W. F. R. Suringar* about his journey to the Dutch W. I. Islands in 1885.

From these data it has been possible to point out the expeditions of this botanist in the three islands.

Suringar visited Curaçao in 1885 from Jan. 10—28, Febr. 11—17, Febr. 27—March 11, March 28—29, and made the following expeditions:

- |        |    |   |
|--------|----|---|
| Jan.   | 10 | Ft. Nassau, Altena, Pieter Maai.                                    |
| „      | 12 | Rif, plain near 't Hospitaal, Priesterberg.                         |
| „      | 13 | Hato, Gasparito.  |
| „      | 14 | Beekenburg, Spaansche water, Kabrietenberg, Zuurzak.                |
| „      | 17 | Veeris.   |
| „      | 19 | Westpuntbaai, Savonet.  |
| „      | 20 | Savonetbaai.  |
| „      | 21 | Christoffelberg.  |
| „      | 22 | Savonet.  |
| „      | 23 | Tafelberg.  |
| „      | 24 | Tafelberg and Seroe trista.   |
| „      | 25 | St. Jan.  |
| „      | 28 | St. Jan, Schottegat.  |
| Febr.  | 11 | Zuikertuintje.  |
| „      | 12 | Brievengat, Ronde Klip.   |
| „      | 13 | Fuik, Fuikbaai.   |
| „      | 14 | Punt Canon, St. Barbara.  |
| „      | 17 | Klip near Willemstad, Schottegat, Grootkwartier.                    |
| March. | 1  | Berg between Schottegat and Hospitaal.                              |
| „      | 4  | Michielsbaai, Veeris.   |
| „      | 7  | Pieter Maai, Rooi Kanarie.  |
| „      | 28 | Kleine Berg, Hermanus, Pt. Marie, Willebrordus, Plan-<br>tage, Rif. |



*Suringar* visited Aruba from Jan. 30—Febr. 9 and made the following expeditions:

- Jan. 30 Oranjestad.
- „ 31 Rif near Oranjestad.
- Febr. 1 Kristalberg.
- „ 2 Santa Cruz, Hooiberg, Seroe Canashitoe, Warawara berg.
- „ 3 Fontein, Seroe Colorado.
- „ 4 Seroe Colorado, St. Nicolaas, Rooi Frances, St. Cruz.
- „ 5 St. Cruz.
- „ 6 Jamanota.
- „ 7 Noord.
- „ 9 Noord, Tankie.

*Suringar* visited Bonaire from Febr. 19--25 and made the following expeditions:

- Febr. 19 Fontein.
- „ 20 Rincon, Goto Baai, Slagbaai, Brandaris.
- „ 21 Slagbaai.
- „ 22 Boca Onima, Klein Bonaire (Molengraaff).
- „ 23 Playa.
- „ 24 Bolivia.
- „ 25 Witte pan.
- „ 26 Playa, Klein Curaçao.

*Suringar's* collections are preserved in the State Herbarium et Leyden, the plants bear no numbers, no more than those from the other islands. Since the sites are only indicated by a single word and consequently nothing can be concluded about the frequency of occurrence, I did not attempt in the Systematical part of this Flora to cite all these plants, as I did in the first part of the Flora of the W. I. Islands. In this latter case *Suringar's* notes sufficiently indicated the place, these islands being so much smaller and easier to survey. It seemed sufficient in the second part of the Flora to mention whether the plants had been collected by *Suringar* in the islands or not.

The circumstance that I could not get the whole of *Suringar's* plants at my disposal during some time, rendered an extensive account of his expeditions impossible and, in my opinion, superfluous, since nearly all parts visited by him were also studied by myself, as will appear when his expeditions are compared with mine. The labels of a great part of the Aruba plants show that many of them were collected by Pastor v. Koolwijk, so that Koolwijk is not a site, as the *Symb. Antill.* wrongly mentions in a few places.

A large portion of the Suringar collection has been determined by Prof. I. Urban and many plants from it are mentioned in his *Symbolae Antillanae*.

### Collection Aschenberg.

In the herbarium of the Botanical Laboratory of the University at Utrecht is a fairly large collection of plants, gathered in Curaçao by *Aschenberg*. I have not succeeded in obtaining nearer information about it. It will be seen from the Systematical part of this Flora that a great many of the species, found by Suringar and myself, have also been collected by *Aschenberg*.

### Collection F. A. F. C. Went.

A number of plants has been collected by *Prof. Dr. F. A. F. C. Went* during his stay in Curaçao in 1901. In the Systematical list they are indicated by the name *Went*.

### Collection Miss A. Lens.

In 1907 *Miss Lens* collected a number of plants in Curaçao; this small collection is conspicuous by its fine specimens, since *Miss Lens* could take much time in drying them. They are chiefly ruderal plants and mentioned in the list by the name *Lens*.

### Collection W. Versluys.

In 1907 *Mr. W. Versluys*, Government Agriculturalist made a collection of plants, indicated in the list as *Versluys*. It contains especially grasses.

### Collection I. Boldingh.

As in the introduction to this Flora an account is given of my investigation of the Flora of the D. W. I. Islands, it may suffice here to mention the places where I stayed and from where I undertook expeditions. They are given in the same order as the expeditions themselves; for nearer information and for the meaning of the abbreviations in the Systematical Part I refer to the explanatory notes of the maps.

Curaçao: Oct. 16—Dec. 20, Jan. 18—28.

Oct. 22 Rif.

„ 24 Ft. Nassau.

„ 25—27 Casa Chiquito, Veerisberg, Blein, Soea, Mahoema.

- Oct. 28—30 Malpais, Blaauw, Klein Piscadera.  
 Nov. 1—2 Westpunt.  
 „ 2—4 Savonet, Christoffel.  
 „ 5—10 Wacao, Hieronymusberg, Antonieberg.  
 „ 11—13 Siberie, St. Pedro, Fontein, Ascention.  
 „ 16 Plantersrust.  
 „ 18 Hato.  
 „ 19 Ronde Klip.  
 „ 20 Valentijn, Schottegat.  
 „ 21—22 Kl. Davelaar, Zuurrak, Brakkeput ariba, Beekenburg, Choloma.  
 „ 23 Choloma, Groot St. Joris, Koraal Tabak.  
 „ 24 v. Engelen, Waterloo, Noordkant.  
 „ 30—Dec. 1 Kleine Berg, Patrick, St. Kruis, Knip.  
 Dec. 2—4 Knip.  
 „ 5—6 St. Kruis.  
 „ 7—8 Kl. St. Martha, Dokterstuin.  
 „ 8—9 St. Jan.  
 „ 9 St. Jan, San Sebastian, Siberie, Hermanus.  
 „ 14 Priesterberg.  
 Jan. 24 Caracasbaai.  
 „ 25 Malpais.
- Aruba: Dec. 21—Jan. 18.  
 Dec. 22 Oranjestad.  
 „ 23 Jaboribori.  
 „ 24 Jamanota.  
 „ 25 Mansheba.  
 „ 27—28 Noord, Alta Vista, Calabasha, Seroe Plat, Kristalberg, Boeshiribana, St. Cruz.  
 „ 29 St. Cruz—Ajo.  
 „ 30 Hooiberg, Canashito.  
 Jan. 1 Seroe Soempinja, Andikurie, Daimarie, Sabanilla abau, St. Cruz.  
 „ 4 Belashi.  
 „ 5 Belashi, Mir la mar, Fontein, Seroe blanco, Belashi.  
 „ 6 Savaneta.  
 „ 11 Seroe Colorado.  
 „ 12 St. Nicolaas, Savaneta.  
 „ 13 Savaneta, Jamanota.  
 „ 14 Savaneta, Paardenbaai, Seroe blanco, Seroe Kadoesji, Fontein, St. Cruz.

Bonaire: Jan. 28—Febr. 20.

- Jan. 30 Rincon.  
 „ 31 Makoetakau.  
 Febr. 1 Playa grandi.  
 „ 2 Joewa.  
 „ 4 Rincon, Onima, Fontein.  
 „ 5 Rincon, Tola.  
 „ 7 Karakau.  
 „ 9 Brandaris, Slagbaai.  
 „ 10 Bolivia.  
 „ 11 Rooi Samboe, Seroe montagna.  
 „ 12 Rooi Samboe.  
 „ 14 Rincon, Kralendijk.  
 „ 15 Seroe grandi, Lagoen.  
 „ 16 Tanki maraka, Seroe montagna.  
 „ 17 Bæcuna, Lac, Klein Bonaire.  
 „ 18 Zuidzoutpannen.  
 „ 19 Vuurtoren N. O. Bonaire.

2200 different plant numbers were collected altogether and elaborate notes were taken about the occurrence of conspicuous species, owing to which the descriptions of the vegetation and other notes in the Systematical list give a practically complete survey of the flora of the three islands.

### Collection N. L. Britton and J. A. Shafer.

*Prof. Dr. N. L. Britton and Dr. J. A. Shafer* visited Curaçao in March 1913 and collected some 250 plants. Through the kindness of Dr. Britton the present writer has been able to study nearly all these plants personally, so that this recent collection could be incorporated. The sites mentioned show that the following spots were visited by the above mentioned gentlemen:

Willemstad and environs, Rif, Piscaderabaai, Mount Pleasant, St. Martha, St. Kruis, Ascencion, Wacao, Patrick, St. Peter, St. Jorisbaai, Caracasbaai.

Of nearly all plants doublets are found in the herbarium of the Botanical Laboratory at Utrecht.

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It is possible that plants from Curaçao are also present in a few foreign herbaries. It appears, namely, from *I. Urban*, Symbolae

Antillanae, III 1902, that the following persons visited Curaçao and collected plants in the various islands:

*J. Ph. B. von Rohr* (about 1737—1793) visited Curaçao after 1786; he sent plants from the Antilles to *Prof. Vahl* at Copenhagen. It is possible that also in the Banks Herbarium in the British Museum, in the Martius Herbarium at Brussels and in the Wildenow Herbarium at Berlin a number of plants from Curaçao are found.

*F. Bredemeyer* (1758—1839) visited Curaçao about 1787; his collections are in the K. K. Hofmuseum at Vienna and in the herbarium of the Botanical Museum at Berlin.

*J. Read* also collected in Curaçao; his collections are in the Academy of Nat. Science at Philadelphia; West-Indian plants also in the Krug und Urban Herbarium at Berlin.

*H. F. A. Baron von Eggers* visited Curaçao in 1893; it is not known to the present author whether he also collected plants there. It did not seem advisable to spend time on a search for these plants, since in all probability this would not result in any new information.

From *N. J. Jacquin*, *Selectarum stirpium Americanarum historia* (1763), appears that at that time some sixteen plants from Curaçao were already known, while also in *Linn. Spec.* (1753) a number of data about Curaçao plants are spread.

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**THIRD PART**

**PHYTOGEOGRAPHICAL**

**Section A. Orological, Geological  
and Meteorological**





# PHYTOGEOGRAPHICAL

## A. Orological, Geological and Meteorological

### CHAPTER I

#### GEOLOGICAL AND OROLOGICAL NOTES.

##### Introduction.

When preparing my journey to the three Leeward Islands I could only avail myself of the Geological and Orological data from K. Martin, Bericht über eine Reise nach Niederländisch West Indien, Leiden 1887.

At the time of my visit the Government was carrying out triangulations on the three islands and also preparing a topographical map of Curaçao.

Besides a general sketch-map of the roads on Curaçao, given me by Mr. Zelle, Head of the Public Works Department there, and a sketch-map of a part of Aruba, given me by Mr. R. J. Beaujon, I had no means of orientation in the three islands.

The lack of maps made itself still seriously felt in 1910 (i. e. 23 years after the publication of Martin's book); hence my topographical determinations are mostly based on local information.

During the preparation of this flora the Topographical map of Curaçao, on a scale 1/200.000 has been finished; this excellent map has still been helpful. Through the kindness of Prof. Grutterink I obtained a map of Aruba after the measurements of captain Lens.

In order to get an impression of the size of the different islands and of their mutual situation I used the map by H. M. van Straate <sup>1)</sup>.

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1) West Indie, Curaçao, Bonaire en Aruba 1 : 300.000 samengesteld uit verschillende bronnen door den Luitenant ter Zee 2e klasse H. M. van Straate, 's Gravenhage. Ministerie van Marine, afd. Hydrographie. Januari 1899.

About the three small maps at the end of this Flora need only be said that the finding-places are given as exactly as possible; it seemed only necessary to indicate the border of the calcareous territories. The different abbreviations are explained in the extensive list of the sites.

While for more detailed information I refer to the work by K. Martin: Bericht über eine Reise nach Niederländisch West Indien 1887 and 1888, from which the greater part of what follows has been derived, a short account many here suffice.

### **Curaçao.**

Of the terminal points of Curaçao Westpunt lies at  $69^{\circ} 11'$  W. Long. and  $12^{\circ} 23'$  N. Lat. and Punt Canon at  $68^{\circ} 49'$  W. Long. and  $12^{\circ} 3'$  N. Lat.; the greatest length of the island is 58 kilometres, its surface  $\pm$  450 square kilometres.

The long-drawn island is a hilly country, the hills consisting of diabase or being of cretaceous origin, the whole being surrounded by a layer of a coral-limestone formation. On the narrower part of the island the northern and southern coral-limestone masses join and reach there the considerable height of 90 M.

The inland hills are in East Curaçao lower than in the West and give a general impression of a low undulating hilly country; the tops are not much higher there than 60 M., as a rule; the high top nearer the North side (Ronde klip) is the only inland hill which is covered with a coral mass. It is 130 M. high.

The calcareous territory of East Curaçao reaches a height of 60 M. in some places of the North coast, on the South coast it is much lower and only in the Tafelberg (St. Barbara) reaches a height of 200 M. This Mount Barbara with its gentle slope towards the sea and abrupt vertical termination towards the interior is the type of the many chalk ridges at the South side of Curaçao.

From Seroe Seinpost a large plain extends eastwards and also round the Schottegat we find a fairly large plain, forming a low hilly country to the East and extending to the West as far as Mont Plaisant. The chalk ridge, extending along the North coast from Schottegat to the neighbourhood of Mont Plaisant, reaches 70 metres in some places. At the South coast the chalk ridge is more interrupted in these same parts and isolated mountains like Veerisberg and Seroepretoe are found as chalk rests. ( $\pm$  140 M.). In the middle of the island a high chalk ridge extends from

Mont Plaisant to beyond the estate Siberie and reaches its highest point in Seroe Kloof and Seroe Dakoe.

From here to St. Kruisbaai and Playa Grandi a hilly country extends, which only in a few places (Dokterstuin) reaches 130 M. Near Anthonieberg (160 M.) a hilly country of greater height begins, forming the centre of the region North of St. Kruisbaai and Anthonieberg; we find there the complexes Tafelberg, 230 M., the top of which consists of chalk, and Christoffelberg, with ramifications extending to Westpuntbaai and St. Kruisbaai.

Anthonieberg, Tafelberg and Christoffelberg are, excepting a few coast mountains, the only heights in West Curaçao which may be properly called mountains; they are the only ones which stand more or less alone. Christoffelberg is 372 M. high and has slopes that cannot be ascended; a road, consisting of sharp prominent rocks, winds from Savonet to the top. All other heights on West Curaçao, on the other hand, are only separated by slightly inclined and gently undulating grounds. The coast mountains, consisting of chalk ridges which surround the whole island, descend on the North coast everywhere in terraces, whereas on the South coast more gently sloping plains are chiefly found. Valleys, perpendicular to the coast, often cut the chalk ridges into isolated mountains. On the South coast of West Curaçao, e. g. near Knip, the chalk ridge is not so high. The perpendicular inland wall is not seen there and the calcareous mass is covered with fragments of the rocks, forming the mountain complex.

The hills of East Curaçao are mostly of a brown red colour and where vegetation is scarce the weathered stone is seen at the surface in small fragments.

The same may be observed about the Eastern middle part. West Curaçao is generally more grown over and less stone is found there at the surface.

Only in all plantations and in their immediate vicinity a more fertile soil is found; the plantations („hofjes”) are mostly situated near the large inland waters.

### Aruba.

The West point of the island lies at  $\pm 70^{\circ} 4' \text{ W. Long.}$  and  $12^{\circ} 37' \text{ N. Lat.}$ ; the East point at  $\pm 69^{\circ} 51' \text{ W. Long.}$  and  $12^{\circ} 24' \text{ N. Lat.}$  The greatest length of the island is 32 kilometres, its surface  $\pm 170$  square kilometres. We may represent it as a fairly large plain of quartz-diorite, rising slowly towards the

middle and highest in the North and which in the North East even develops hills. At the centre of this quartz island a diabase triangle rises, forming a complex of hills which is especially conspicuous in the North.

The quartz-diorite part eastward of the line Belashi — Cashuntie is still partly covered with quaternary riff-chalk, although not nearly to such an extent as is indicated by Martin in his map. There are fairly high hills of quartz-diorite (Paloe Marga 78 M., Seroe Preto 61 M.) between Savaneta and Jamanota and this rock also rises to the surface in many places between Savaneta and Fontein. Part of the South coast of West Aruba is occupied by a large broad seam of riff-chalk, which in some places (Boeroekoe 21 M.) reminds one of the limestone hills on the South coast of Curaçao. The Canashito is a more inwardly situated limestone ridge. From the plain of West Aruba rises isolated the conical Hooiberg, 164 M. Also the Seroe Plat, 94 M., is an isolated mountain and is surmounted by a calcareous table-land.

The diabase hilly complex, extending over a territory, bordered by lines from Matavidiri to Belashi, from there to Boca Prins and then along the North coast to Matavidiri, has a number of high tops, among them Ariekok 175 M. and Jananota 188 M. From these tops the country slowly descends to the South and West and the whole landscape is dominated by cup-shaped hills, separated by gently sloping valleys; in some places we find perpendicular walls. On the North coast we meet in a few places the same limestone terraces which exist on the West coast of Curaçao.

## **Bonaire.**

The West point of the island lies at  $\pm 68^{\circ} 12'$  W. Long. and  $12^{\circ} 14'$  N. Lat., the most Southern point at  $\pm 68^{\circ} 24'$  W. Long. and  $12^{\circ} 13'$  N. Lat. The greatest length of the island is 36 kilometres, its surface about 240 square kilometres. It consists of a quaternary limestone formation, pierced in two places by mountainous complexes of cretaceous origin, diabase and glimmer porphyrite.

A limestone mountain-range of semi-circular shape separates the Rincon plain and the part to the West of this latter from the other non-calcareous part, which extends over a much larger surface than Martin's map shows.

The remaining part of the island East of this limestone complex

consists entirely of limestone, with various table-lands and partly covered with fragments of the other rocks, forming the foundation of the island.

Also the North and West margin of the Rincon plain and the mountainous complex of Slagbaai is surrounded by a narrow coral-limestone mass, which is particularly broad South of Rincon and descends in terraces to the sea; in the West this mountain ridge is repeatedly divided into isolated mountains by steep clefts. The high chalk-terrace Langeberg determines the shape of the island; the next terrace extends from Langeberg in all directions to about 2 kilometres from the sea, except in the South, where the third terrace appears a little South of Lac, following a W. E. line. The remaining part of the island consists, like the circumference of Klein Bonaire, of a lower chalk formation. The mountain complex in West Bonaire has its highest top in the Brandaris, 240 M. From this mountain and the Karakao, 158 M., situated a little more to the N. E., two mountainranges proceed in a S. E. direction, consisting of round cup-shaped hills with a few apices and ending in the Joewa and Makakoe.

Besides the large valley of Rincon, bordered to the West by the Brandaris complex, to the South by the high chalk ridge and to the North by the lower chalk ridge we find in East Bonaire a large plain, extending from Karakao to the coast.

### General notes.

On account of the occurrence of eruptive rocks in the islands Curaçao, Aruba and Bonaire Sievers<sup>1)</sup> is of opinion that these islands must be considered to form one complex with Goajira, which in its turn would cohere with the Sierra Nevada de Santa Martha and extend over the first mentioned islands as far as Los Rocques. When discussing the vegetation we shall see that a few plants occurring in Santa Martha are found in the three islands, forming the subject of this Flora. It should be noted that Aruba is separated from the other islands by a sea-depth of 2000 M. and falls quite within the coast line of Venezuela where the depth is 200 M. Also the isle of Margarita lies inside the coast line of 200 M. depth; contrary to the group Aruba, Curaçao, Bonaire, it consists of archaic rocks and corresponds entirely to the continental land of Arya and Paria.

1) W. Sievers: Karten zur physikalischen Geographie von Venezuela in Dr. A. Petermanns Mitteilungen aus Justus Perthes' Geogr. Anst. 42. Band. 1896. VI. p. 125.

## CHAPTER II

### METEOROLOGICAL NOTES.

About the Dutch Leeward Islands not much more is known than that a strong N. E. monsoon blows there and that the annual rainfall is usually very small.

The influence of the winds is noticed in the outward appearance of the landscape; the tops of the trees are always stretched in a N. E. — S. W. direction, unless they stand in protected places. This causes these often very poorly looking trees to have a peculiar appearance; the wind seems to be so strong that at the exposed side they have hardly any leaves.

The temperature of the islands varies from 24 to 29° C.

The annual amount of the rainfall remains far behind that of the three Dutch Windward Islands and very dry years have been observed. The following table gives the rainfall for Curaçao, Aruba and Bonaire.

**Rainfall in mm. from January—December of the West  
Indian Islands, Curaçao, Aruba, Bonaire. <sup>1)</sup>**

Average.	1899.	1909.				
		Curaçao.	Curaçao.	Aruba.	Bonaire.	Bonaire.
Curaçao.	Curaçao.	Hoffie abau.	Fort Amsterdam		Rincon.	Kralendijk
58	60	193	114	131	74	89
27	22	93	93	33	64	56
21	28	8	10	2	6	5
14	1	30	40	19	16	10
3	2	2	4		3	3
18	9	13	21	12	53	30
29	18	41	55	45	58	47
41	46	16	57	19	9	3
33	4	48	11	52	16	19
46	14	141	153	63	15	43
125	66	498	325	358	213	233
81	89	113	100	25	144	108
526	359	1196	983	759	671	646

This table shows that the year 1909 was exceptionally favourable for studying the flora, since, owing to the abundant rains, a very large number of plants were found flowering.

<sup>1)</sup> After: Went, Rapport omtrent den toestand van Land- en Tuinbouw op de Nederlandsche Antillen 1902 and Meteorologische Waarnemingen in Suriname en Curaçao in het jaar 1909.





## **THIRD PART**

### **Section B. Distribution of the Wild Plants enumerated in the First Part**



# B. Distribution of the Wild Plants enumerated in the First Part

## CHAPTER I

### DISTRIBUTION OF ALL THE WILD PLANTS ENUMERATED IN THE FIRST PART.

	Both hemisph.	Amer. trop.	Islands and Am. Cent.	Islands and Am. Merid	Islands.	Indig.	Total.
Filices . . . . .	1	2	. . . . .	. . . . .	. . . . .	. . . . .	3
Typhaceae . . . . .	. . . . .	1	. . . . .	. . . . .	. . . . .	. . . . .	1
Potamogetonaceae. . . . .	1	. . . . .	. . . . .	. . . . .	1	. . . . .	2
Najadaceae . . . . .	. . . . .	. . . . .	1	1	. . . . .	. . . . .	1
Alismataceae . . . . .	. . . . .	. . . . .	1	. . . . .	. . . . .	. . . . .	1
Hydrocharitaceae . . . . .	. . . . .	. . . . .	. . . . .	1	1	. . . . .	2
Gramineae . . . . .	13	6	. . . . .	6	5	4	35
Cyperaceae . . . . .	12	3	1	3	4	1	23
Lemnaceae . . . . .	1	1	. . . . .	. . . . .	. . . . .	. . . . .	2
Bromeliaceae . . . . .	. . . . .	2	1	1	. . . . .	. . . . .	4
Commelinaceae . . . . .	. . . . .	1	1	1	. . . . .	. . . . .	2
Amaryllidaceae . . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	3	3
Orchidaceae . . . . .	. . . . .	. . . . .	1	1	. . . . .	. . . . .	2
Ulmaceae . . . . .	. . . . .	1	. . . . .	. . . . .	. . . . .	. . . . .	1
Moraceae . . . . .	. . . . .	1	. . . . .	. . . . .	. . . . .	1	2
Urticaceae . . . . .	. . . . .	. . . . .	1	. . . . .	. . . . .	. . . . .	1
Loranthaceae . . . . .	. . . . .	. . . . .	1	. . . . .	. . . . .	. . . . .	1
Olacaceae . . . . .	. . . . .	. . . . .	1	1	. . . . .	. . . . .	1
Polygonaceae . . . . .	. . . . .	1	. . . . .	1	1	. . . . .	3
Chenopodiaceae . . . . .	2	1	. . . . .	1	. . . . .	. . . . .	4
Amarantaceae . . . . .	4	2	. . . . .	1	2	. . . . .	9
Nyctaginaceae . . . . .	. . . . .	4	1	1	. . . . .	1	6
Batidaceae . . . . .	1	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	1
Phytolaccaceae . . . . .	. . . . .	1	. . . . .	. . . . .	. . . . .	. . . . .	1
Aizoaceae . . . . .	2	1	. . . . .	. . . . .	. . . . .	. . . . .	3
Portulacaceae. . . . .	1	. . . . .	1	2	1	. . . . .	5

	Both hemisph.	Amer. trop.	Islands and Am. Centr.	Islands and Am. Merid.	Islands.	Indig.	Total.
Nymphaeaceae . . . . .		1					1
Menispermaceae . . . . .	1						1
Papaveraceae . . . . .	1						1
Cruciferae . . . . .						1	1
Capparidaceae . . . . .	1	1	1	6	1		9
Leguminosae . . . . .	16	3	9	16	2	1	41
Erythroxylaceae . . . . .				1			1
Zygophyllaceae . . . . .	1	1		1	1	1	5
Rutaceae . . . . .				2	2		4
Simarubaceae . . . . .	1						1
Burseraceae . . . . .		1		1		1	3
Meliaceae . . . . .				1			1
Malpighiaceae . . . . .		1		3			4
Polygalaceae . . . . .			1	1			1
Euphorbiaceae . . . . .	4	9	1	5	6	2	26
Anacardiaceae . . . . .				1			1
Celastraceae . . . . .				1	1	1	3
Sapindaceae . . . . .	2			1			3
Rhamnaceae . . . . .				1	1	1	3
Vitaceae . . . . .		1		1			2
Tiliaceae . . . . .	2		1	1			3
Malvaceae . . . . .	8	3	2	4	1		16
Sterculiaceae . . . . .	2	1	1	1			4
Guttiferae . . . . .				1			1
Cochlospermaceae . . . . .			1				1
Flacourtiaceae . . . . .					1		1
Turneraceae . . . . .			1	2	1		3
Passifloraceae . . . . .	1	1					2
Loasaceae . . . . .		1					1
Cactaceae . . . . .			2		2	4	8
Lythraceae . . . . .	2	1					3
Rhizophoraceae . . . . .	1						1
Combretaceae . . . . .	2						2
Myrtaceae . . . . .					1		1
Oenotheraceae . . . . .	1						1
Umbelliferae . . . . .				1			1

	Both hemisph.	Amer. trop.	Islands and Am. Centr.	Islands and Am. Merid.	Islands.	Indig.	Total.
Theophrastaceae . . . . .					1		1
Sapotaceae . . . . .					1		1
Loganiaceae . . . . .		1					1
Apocynaceae . . . . .				1			1
Asclepiadaceae . . . . .	2			1		1	4
Convolvulaceae . . . . .	9	5	5	9			25
Hydrophyllaceae . . . . .		1					1
Borraginaceae . . . . .	2	5	3	2	1		11
Verbenaceae . . . . .	3	3	2	2	2		11
Labiatae . . . . .	3	1					4
Solanaceae . . . . .	3	1	1	3			7
Scrophulariaceae . . . . .		2		2			4
Bignoniaceae . . . . .		1		1			2
Acanthaceae . . . . .	1		2	2			3
Myoporaceae . . . . .				1			1
Rubiaceae . . . . .	1	4	4	3	2		13
Cucurbitaceae . . . . .	1	1		1			3
Compositae . . . . .	3	3	4	5	3	2	20
Total	113	80	42	106	44 <sup>c</sup>	25	394
	192		37 <sup>a</sup> 5 <sup>1)</sup> 84 <sup>b</sup> 22 <sup>2)</sup>				
			148				
			$a + b + c = 166^3)$				

1) 5 in Americ. Centr.

37 in Americ. Centr. + Antill.

2) 84 in Americ. Merid. + Antill.

22 in Americ. Merid.

3) Antill.

From the preceding list will be seen that in the three Dutch West Indian Islands 394 wild plants occur; of these 25 are indigenous, 44 Curaçao, Aruba and Bonaire have in common with the Antilles only, 84 with the Antilles and South America, 37 with the Antilles and Central America, 5 with Central America only and 22 with South America only. Besides 80 plants are found in

the three islands which grow in the whole of tropical America and 113 which are also found in the Old World.

The following list shows the numerical distribution of the species, occurring in the three islands, over the principal families. For comparison also the numbers for Margarita have been given; the numbers of plants, occurring in the Dutch Islands as well as on Margarita, are placed between brackets.

	Curaçao, Aruba, Bonaire.	Margarita.
Leguminosae	41	65 (16)
Gramineae	35	25 (10)
Convolvulaceae	25	11 (4)
Euphorbiaceae	24	31 (16)
Cyperaceae	23	14 (2)
Compositae	20	30 (10)
Malvaceae	16	13 (8)
Borraginaceae	11	15 (12)
Rubiaceae	13	17 (4)
Verbenaceae	11	19 (6)
Capparidaceae	9	12 (9)
Amarantaceae	9	13 (6)
Cactaceae	8	11 (3)
Solanaceae	7	23 (2)
Nyctaginaceae	6	4 (3)

From this list and still more from the Systematical Part itself appears how in the three Dutch West Indian Islands many families are only represented by a single genus and often by only one species and that, on the whole, only a few genera occur with a large number of species.

The number of species, found on each of the three islands, is given in the following list.

	Curaçao.	Aruba.	Bonaire.	Total.
Total number . . . . .	357	213	239	394
Antilles plants only . . . . .	40	25	31	44
South Amer. plants only . . . . .	20	12	14	22
Indigenous . . . . .	22	14	18	25

Hence the ratios of total number of the three groups are approximately as 360 : 220 : 250. The present author knows no reason why this should be so; probably there is no connection with the ratio of the surfaces of the islands which is as  $\pm$  360 : 119 : 153.

Taking into consideration all the wild plants, except those which are also found in the Old World and in North and South America, the three Dutch Islands share 106 plants or 25 % more with South than North America and 42 plants or 10 % more with Central than North America.

Comparing these numbers with the corresponding ones for the flora of Portorico<sup>1)</sup>, where they are 15 % and 7 %, we see that the Dutch West Indian Islands contain relatively more Central and South American plants than Portorico, although this island has already a fairly large number of South American plants. What Urban says (p. 681): „dass die Flora von Portorico die stärksten Beziehungen zu Süd-Amerika aufweist“, holds still more for Curaçao, Aruba and Bonaire.

Moreover we see that in the Dutch W. I. Islands 22 species or 11 % occur which are besides only found in South America, while for Portorico these numbers are 6 species or 0.3 %.

This clearly proves that the flora of the three Dutch W. I. Islands has a much greater resemblance with that of South America than the Flora of Portorico has with the South American Flora. All this refers only to the numerical distribution of the plants, as given in the lists.

With regard to the flora of Portorico we cannot make comparisons as to the plants, determining the vegetation. Our discussion in the Third Part Section C will show, however, that the flora of Curaçao, Aruba and Bonaire shows in many respects strong tendencies towards that of the Antilles.

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<sup>1)</sup> I. Urban, l. c., pp. 680, 681.









These lists admit no other conclusion than that the very generally distributed plants, mostly shrubs or trees, occur abundantly in the islands Curaçao, Aruba and Bonaire, particularly *Coccoloba diversifolia*, *Capparis jamaicensis*, *Croton flavens*, *Jacquinia barbasco*, *Bumelia obovata*, *Beureria succulenta*; from which would follow that the vegetation of these islands strongly resembles that of the Antilles.

## CHAPTER III

### Distribution of the plants only known from South America and Curaçao, Aruba and Bonaire.

<i>Bromelia lasiantha</i> . . . .	Cur.	Arub.			Venezuela.
<i>Schomburgkia tibicinis</i> . . .	Cur.		Bon.		Honduras.
<i>Triplaris coriacea</i> . . . .	Cur.				Barcelona, Caracas.
<i>Portulaca venezuelensis</i> . .	Cur.	Arub.	Bon.	Marg.	Venezuela.
<i>Capparis linearis</i> . . . .	Cur.	Arub.		Marg.	Venezuela.
<i>Capparis tenuisiliqua</i> . . .	Cur.		Bon.	Marg.	Venezuela.
<i>Pithecolobium platylobum</i> .		Arub.			St. Martha, Venezuela.
<i>Dalea phymatodes</i> . . . .	Cur.				Venezuela.
<i>Aeschynomene falcata</i> . . .	Cur.				Brasilia, Amer. Merid., Bolivia.
<i>Geoffraea superba</i> . . . .	Cur.		Bon.		Amer. Austr.
<i>Phaseolus longepedunculatus</i>	Cur.	Arub.	Bon.		Brasilia.
<i>Bursera tomentosa</i> . . . .	Cur.	Arub.	Bon.		Nova Granata, Venezuela.
<i>Trichilia trifolia</i> . . . .	Cur.				Cumana.
<i>Malpighia puniceifolia</i> . . .	Cur.	Arub.	Bon.	Marg.	North S. America.
<i>Serjania curassavica</i> . . . .	Cur.	Arub.	Bon.		Nova Granata.
<i>Omphalophthalmus ruber</i> . .	Cur.	Arub.	Bon.		Nova Granata.
<i>Jacquemontia cumanensis</i> . .	Cur.		Bon.		Nicaragua, Venezuela.
<i>Jacquemontia evolvuloides</i> .	Cur.		Bon.		Br. Guiana, Brasilia, Bolivia, Parag., Arg.
<i>Stachytarpheta sanguinea</i> .		Arub.			Brasilia.
<i>Scoparia annua</i> . . . .	Cur.	Arub.	Bon.		Brasilia.
<i>Tecoma chrysantha</i> . . . .	Cur.	Arub.	Bon.		Venezuela.
<i>Machaonia Ottonis</i> . . . .	Cur.		Bon.		Venezuela.

Among these there are some which give a typical aspect to the vegetation. These are dealt with in the Third Part Section C.

## CHAPTER IV

### Distribution of the indigenous plants from Curaçao, Aruba and Bonaire.

<i>Andropogon curassavicus</i> . . . . .	Curaçao.		
<i>Chloris leptantha</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Chloris Suringari</i> . . . . .	Curaçao.		
<i>Eragrostis Urbaniana</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Bulbostylis floccosa pumilio</i> . . . . .	Curaçao.		Bonaire.
<i>Agave Trankeera</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Agave vicina</i> . . . . .		Aruba.	
<i>Agave vivipara</i> . . . . .	Curaçao.		
<i>Ficus Brittonii</i> . . . . .	Curaçao.		Bonaire.
<i>Pisonia bonairensis</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Greggia Urbaniana</i> . . . . .		Aruba.	
<i>Kallstroemia curta</i> . . . . .	Curaçao.	Aruba.	
<i>Bursera bonairensis</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Phyllanthus Euwensii</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Croton curassavicus</i> . . . . .	Curaçao.		
<i>Maytenus Versluysii</i> . . . . .	Curaçao.		Bonaire.
<i>Condalia Henriquezii</i> . . . . .	Curaçao.		Bonaire.
<i>Casearia bonairensis</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Cereus repandus</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Cephalocereus lanuginosus</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Melocactus spec.</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Opuntia tunoides</i> . . . . .	Curaçao.	Aruba.	Bonaire.
<i>Opuntia elatior</i> . . . . .	Curaçao.		Bonaire.
<i>Metastelma Boldinghii</i> . . . . .	Curaçao.		Bonaire.
<i>Melampodium bonairense</i> . . . . .	Curaçao.		Bonaire.
<i>Pectis brachycephala</i> . . . . .		Aruba.	

Only a small number of these plants give a typical aspect to the vegetation and occur so abundantly that they are an important factor in imparting to the flora of these islands a character of its own. See on this point Third Part, Section C.



## **THIRD PART**

### **Section C. The vegetation of Curaçao, Aruba and Bonaire**





## CHAPTER I

### NOTES ON THE ASPECT OF THE VEGETATION OF CURAÇAO, ARUBA AND BONAIRE.

The general impression of the vegetation of the islands Curaçao, Aruba and Bonaire is that of a dry country, where thorny shrubs and cactuses predominate and more or less compete with each other.

When, e.g. on Bonaire we climb one of the hills of the Western part, we see there in their purest, intact condition the pretty thick bushes of shrubs, from which tree-shaped *Cereus* species rise to a great height.

Since everywhere in the three islands a strong N.E. monsoon blows incessantly, the climate is rather dry and there is generally not much variation between high and low, also the vegetation has everywhere a rather uniform aspect.

Excepting a few less exposed parts and the higher tops of Curaçao and Bonaire, the whole vegetation may be said to have a more or less xerophile character; in many places where the soil is covered by hardly any humus, as on the numerous limestone table-lands, it becomes a very poor vegetable cover, made up chiefly of *Cactaceae*, some *Rubiaceae* and *Euphorbiaceae* with sparse *Gramineae*; a scanty cover is also found on the diabase hills in the East of Curaçao and in the Northern middle part of Aruba, where a few *Gramineae*, a poor *Corchorus* and *Heliotropium* shrubs form the widely scattered vegetation. In the more sheltered parts or where more humus is found and cattle does not graze off everything, the whole surface is covered with rather low shrubs and low trees, among which especially *Leguminosae* prevail; nearly everywhere the soil is clearly visible and not covered by a connected vegetation.

In the lower parts, in the neighbourhood of the „Hofjes”, meadows are often found and the plant-cover is more coherent.

In the sheltered parts tree-growth is more prominent and where shrubs are found *Acacia tortuosa* is always noticed; *Cactuses*

are more or less predominant in the landscape and together with the shrubs give it a uniform type, only modified by variations in the numerical ratio in which the plants occur. This will make it sufficiently clear that in the Leeward Islands differences in the vegetation types as exist on the Windward Islands are not to be expected. The type of vegetation on the Leeward Islands might be generally described as a **Croton** vegetation, here as on the Windward Islands determined by plants like Croton, Acacia, Lantana, Melochia, Opuntia, Melocactus, to which for the Leeward Islands may be added a number of other plants, as will appear from the further description. On the Leeward still more than on the Windward Islands this type of vegetation cannot be distinctly separated from the litoral vegetation which only near the salt-pans assumes a character of its own by the occurrence of Mangrove plants.

In many parts of the Islands culture or traces of former culture are found; also ruderal plants are found everywhere, among which a large number of tropical cosmopolitans. A genuine original vegetation is only found in the higher parts.

We saw that in general there is some difference in the vegetation, depending on shrubs or herbs being more prominent; a division according to the occurrence or non-occurrence on calcareous soil and a characterisation of these vegetation types is possible in exceptional cases only. So we do not or hardly ever find on calcareous soil:

*Panicum velutinsum*,  
*Pisonia bonairensis*,  
*Capparis Breynia*,  
*Capparis linearis*,  
*Trichilia trifolia*,  
*Spondias Mombin*.

On the other hand we always or nearly always find on lime:

*Sesuvium portulacastrum*,  
*Fagara monophylla*,  
*Phyllanthus polycladus*,  
*Metopium Brownei*,  
*Rhacoma crossopetalum*,  
*Tournefortia gnaphalodes*,  
*Antirrhoea acutata*.

Of these two groups *Capparis Breynia* is characteristic for the vegetation outside the lime and *Rhacoma crossopetalum* and *Antirrhoea acutata* for lime.

Now, since a large number of other plants abound as well on lime as outside it, without being restricted to either of the two soils, it will be understood that only in a few cases and exactly by the last named plants, when these occur in large quantities, we can settle whether a calcareous or a non-calcareous vegetation is present.

As the result of these observations we have:

A **litoral vegetation**, difficult to separate from the principal form the **Croton-vegetation**; this latter is determined by *Acacia* and *Croton* and has either a *Capparis* type or a *Rhacoma-Antirrhoea* type. In the higher parts this *Croton-vegetation* changes into a more forestlike type; in general the predominant Cactuses are found in the lower parts, although on Bonaire also some hills are covered with them. The characteristic *Rhacoma* type is entirely absent on Aruba, as this plant does not occur there.

The vegetation on Aruba receives a peculiar aspect through *Pithecolobium platylobum*, which occurs there in very large numbers, especially in the mountainous part, while on Curaçao and Bonaire *Randia aculeata* forms a very important constituent of the vegetation.

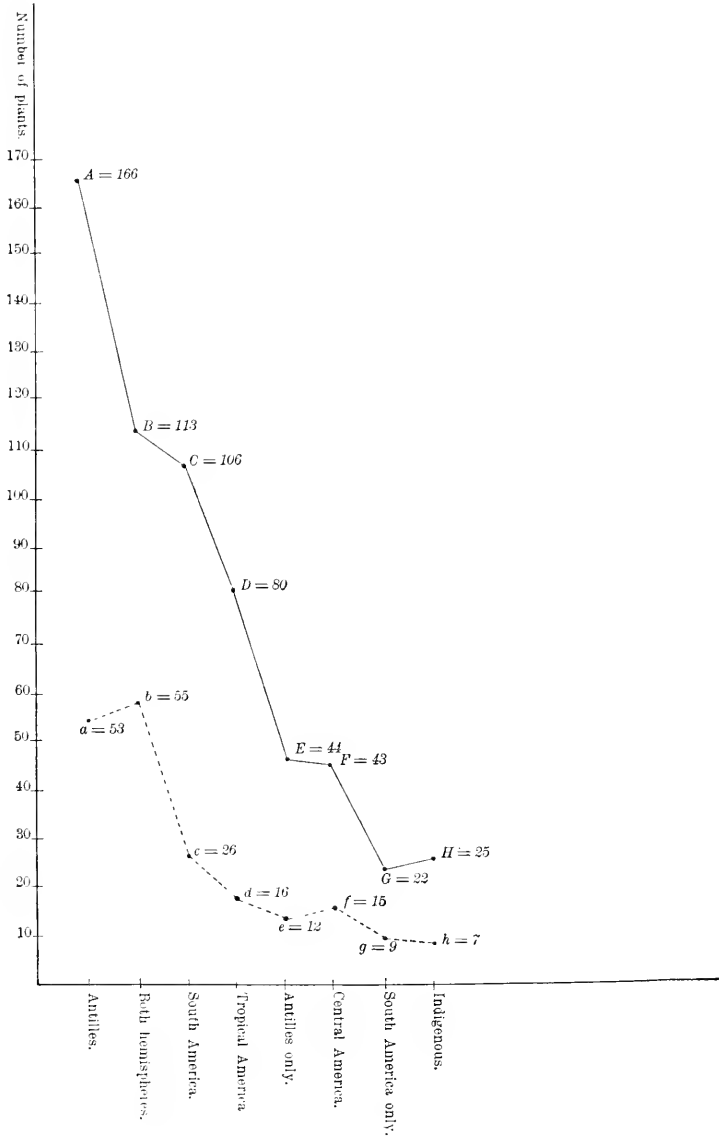
*Acacia villosa* which predominates in certain parts of Curaçao is on the other hand entirely absent on Aruba and Bonaire.

If only a small number of plants is available to settle a vegetation type, it will be seen on comparison with the list of the plants that are only found in the Dutch W.I. Leeward Islands, that among the plants, typical for this purpose, not a single indigenous one occurs. Hence the aspect of the vegetation in the three Islands is not typically individual by the occurrence of definite indigenous plants but depends on plants that also occur elsewhere.

Now leaving aside certain types of the vegetation and looking at it as a whole, we are particularly struck by the *Cereus* species, which are either indigenous or South American, the *Melocacti*, which are indigenous and other indigenous plants that predominate in certain parts, the *Agaves*, *Phyllanthus Euwensii*, *Peltophorum Suringari*, *Chloris leptantha*, *Eragrostis Urbaniana*. Beside this small number of indigenous plants of which the *Cactaceae* may be said to occur everywhere, we have a large number of Antilles plants, as: *Coccoloba diversifolia*, *Lithophila muscoides*, *Capparis jamaicensis*, *Guaiacum sanctum*, *Fagara flava*, *Croton flavens*, *Jacquinia barbasco*, *Bumelia obovata*, *Beureria succulenta*, *Antirrhoea acutata*, *Morinda Royoc*, so that the vegetation is in complete harmony with the flora of the Antilles.

The following graphical representation shows the numbers of different species in relation to their distribution and their share in determining the aspect of the vegetation.

The continuous line joins the numbers relating to the total number of occurring plants, the dotted one joins the corresponding numbers referring to the numbers of plants, conspicuous in the aspect of the vegetation in the Islands.



Hence:

$$A : a = 3,1$$

$$C : c = 4,1$$

$$D : d = 5$$

$$E : e = 3,7$$

$$G : g = 2,4$$

These equations show as well as the general shape of the curves that:

if we compare the total number of plants with the number of those that determine the vegetation, this latter number is relatively smaller with the South American plants than with the indigenous Antilles plants, smaller again with these than with the plants growing in the Antilles and for these again smaller than with the indigenous South American plants.

So we conclude that the influence of the South American flora is strongest; we saw (p. 139) that also numerically this influence is stronger on the flora of the Dutch W. I. Islands than on that of Portorico.

Still I should conclude from what I have personally seen and from the tables about the distribution of the Antilles plants and of the purely South American ones, that the outward appearance of the vegetation, in spite of the typical *Cereus* species which are either indigenous or South American and indigenous plants like *Casearia bonairensis*, *Phyllanthus Euwensii*, is chiefly due to the Antilles plants.

To this should be added, however, that among the typically South American plants there are a number which, although they do not form a typical part of the vegetation, still occur in particularly interesting spots, those namely where culture has least intruded and which are most inaccessible. Such are: *Triplaris coriacea*, *Capparis linearis*, *Tecoma chrysantha*, *Capparis tenuisiliqua*.

Now these are exactly plants which occur in St. Martha and in the part of South America which geologically (see p. 129) related to the three Dutch Islands Curaçao, Aruba and Bonaire.

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## CHAPTER II

### DESCRIPTION OF THE VEGETATION OF CURAÇAO, ARUBA AND BONAIRE.

It appeared in Ch. I, p. 149 that in the three Islands no sharp demarcation lines can be drawn between the various types of vegetation. For this reason I shall not give an enumeration of the plants, belonging to the different vaguely distinguished regions, but prefer to describe some twenty-eight spots in various parts of the islands, following entirely the locally collected notes.

#### Curaçao.

##### The Riff.

This extends near Willemstad on the West side along the coast and consists of coral-lime with calcareous sand. It contains a number of ruderal and typical litoral plants along the sea-coast; the small lagunes are rich in *Laguncularia racemosa*, *Avicennia nitida* and *Rhizophora* Mangle; *Philoxerus vermicularis* occurs there as a herb together with *Sesuvium portulacastrum*; also an occasional Cyperacea and *Heliotropium curassavicum*. *Morinda Royoc* as a very low shrub together with *Euphorbia thymifolia* occurs frequently on the lime grounds, while *Conocarpus erecta* forms whole complexes; also *Gundlachia corymbosa* and *Suriana maritima* form green globular groups, while *Erithalis fruticosa* with its shining leaves and *Acacia tortuosa* with its sharp prickles are very frequent; the *Acacia* itself reaches the height of a tree here.

Round the smaller water complexes and salt-pans we find in large numbers *Batis maritima* and *Salicornia ambigua*, together again with *Laguncularia racemosa*, *Conocarpus erecta* and *Suriana maritima*. Further on, on the higher parts, we also frequently meet *Cordia cylindrostachya*, while an occasional tree rises high above the shrubs, as *Thespesia populnea*. Also *Coccoloba uvifera* is in some places conspicuous by a somewhat greater height.

Leaving the lower parts we see on the slightly higher lime grounds besides numerous Cactuses especially *Jatropha gossypifolia*, while *Caesalpinia coriaria* and *Haematoxylon Brasiletto* with *Rhacoma crossopetalum* form the higher thicket of shrubs.

In combination with a great many *Phyllanthus Euwensii*, *Beureria succulenta*, *Croton flavens* and *Cordia globosa* they form a vegetation which has entirely the aspect of the *Croton* vegetation, with already an occasional *Randia* in it.

The plant-growth on these lime hills agrees entirely with the typical lime hill vegetation in all parts of Curaçao, of which as a specimen I shall describe:

#### **The lime hills near St. Martha.**

When we descend to the sea from the top of one of the lime terraces near it, we are particularly struck by the abundance of high shrubs or low trees like *Malpighia*, *Guaiacum officinale*, while *Croton flavens* with *Phyllanthus Euwensii*, *Randia aculeata*, *Bursera tomentosa*, *Caesalpinia coriaria*, *Haematoxylon Brasiletto*, *Bursera simaruba* are the principal constituents of the pretty dense thickets of shrubs, with *Euphorbia thymifolia* and especially *Capraria biflora* at the bottom.

Nearer the sea, somewhat lower on the incline, *Lantana involu-crata*, *Bumelia obovata* and *Croton* vegetation become prominent and finally *Agave vivipara* with *Cactaceae*.

Especially in the part West of St. Martha the lime hills are highly overgrown and tree-like forms become more prominent.

Similar in its general character to the above mentioned lime hills, but in its details somewhat different is the plant-growth on the

#### **Kabrietenberg near Beekenburg.**

Climbing this fairly high lime hill from the land-side we meet again the rather dense shrubs, among which we notice *Malvastrum spicatum*, *Melochia tomentosa*, *Sida*, *Croton flavens*, *Cordia cylindrostachya*, *Lantana camara*; a very dense shrub-growth compared with the much more scantily overgrown parts of Curaçao. *Beureria succulenta* and *Acacia tortuosa* rise above these shrubs together with *Haematoxylon Brasiletto* and *Machaonia Ottonis*; in places where the shrubs are less dense we find the soil pretty thickly covered with *Tephrosia cinerea*, *Heliotropium humile*, *Sida*, *Chloris*, *Mariscus fuliginosus*, *Hyptis pectinata* and *Paspalum glabrum*, while *Ipomoea* winds through everywhere.

A few *Bursera bonariensis* and *Antirrhoea acutata* form again, together with a large number of *Casearia bonariensis* and *Haematoxylon Brasiletto*, the higher shrubs or stick out with *Hippo-*

mane mancinella, *Tecoma chrysantha*, while also *Croton niveus* is conspicuous by its shining leaves amidst *Cordia alba*, *Cordia cylindrostachya* and *Crescentia Cujete*.

More even lime grounds are very numerous in Curaçao; they contain chiefly plant combinations such as I described for the two calcareous districts mentioned.

We next describe

#### **The calcareous district near Fontein.**

On a slope, close to a deep cleft, *Bursera*, *Randia aculeata*, *Beureria succulenta*, *Caesalpinia coriaria*, *Acacia villosa*, *Acacia tortuosa*, *Phyllanthus Euwensii*, *Croton flavens*, *Jatropha urens* with its very strong stinging hairs, *Capparis cynophallophora*, *Crescentia Cujete*, *Malpighia*, *Machaonia Ottonis* and a few *Triplaris coriacea* form the high thicket of shrubs. Similar to this is

#### **The calcareous district near Siberie.**

It has mainly the same plants, only the following are conspicuous by their large numbers: *Rhacoma crossopetalum*, *Coccoloba diversifolia*, while in more open parts *Heliotropium* and a number of grasses cover the soil. *Croton niveus*, *Malpighia* and especially many *Cephalocereus lanuginosus* are together with *Guaiacum officinale* and *Condalia Henriquezii* the principal plants, while here *Metopium Brownei* is already one of the tallest trees.

#### **The lime district near Savonet.**

Here the soil is more open in many places, the shrubs are less high, so that *Evolvulus*, *Heliotropium*, *Croton glandulosus*, *Sida*, and especially *Sporobolus argutus* are conspicuous; as a lower shrub we see *Kramera ixina*; here, as in the above mentioned regions, *Cereus* and *Opuntia* are seen everywhere in varying numbers, while *Cereus repandus* is very frequent; on the grounds towards the sea are many bare parts again, where *Paspalum glabrum* is conspicuous and *Cordia cylindrostachya* is frequent with *Conocarpus erecta* and forms whole complexes; there is also found (the only place known to me) *Amoreuxia palmatifida*; *Jacquinia barbasco* and *Caesalpinia coriaria* often stand quite isolated, all very much with their tops in one direction by the wind. As typical lime regions we have still the high lime table-lands on the top of *Ronde Klip* and *Hieronymusberg*.

#### **Ronde Klip.**

Here we meet a shrub-vegetation consisting of *Cordia cylindrostachya*, *Coccoloba diversifolia*, *Haematoxylon Brasiletto*, *Rhacoma crossopetalum*, *Jacquinia barbasco*, *Erithalis fruticosa*, *Metopium Brownei*, *Antirrhoea acutata*, *Condalia Henriquezii* and *Beureria*



succulenta; also *Machaonia Ottonis* and *Bursera* occur there. On the ground grows not much more than a few *Euphorbia thymifolia* and *Phyllanthus polycladus*.

#### **The lime table-land on Hieronymusberg.**

This contains a similar vegetation, only somewhat poorer; here, however, *Guaiacum officinale* and *Guaiacum sanctum* are conspicuous, besides *Phyllanthus Euwensii* and *Casearia bonairensis*, *Acalypha Poiretii* and *Pisonia bonairensis*.

Very divergent in its plant-growth by the presence of some forms which are entirely lacking in other places is the

#### **Christoffelberg.**

At its base we find again the strongly developed *Croton* vegetation of the lower hilly country, which besides Cactuses also contains many *Croton flavens*, *Jatropha gossypifolia*, *Acacia villosa*, *Haematoxylon Brasileto*, *Cordia cylindrostachya*, *Jatropha urens*, *Acacia tortuosa*, *Melochia tomentosa*, *Randia aculeata* and *Phyllanthus Euwensii*. Also the lower *Sida* species, *Indigofera suffruticosa*, *Convolvulaceae* and *Opuntia curassavica* are found. Higher up this vegetation remains, but more *Coccoloba diversifolia*, *Myrtaceae* and *Capparis linearis* appear, while *Bromelia lasiantha* often covers the ground. Of trees we now see *Machaonia Ottonis* and *Tecoma chrysantha*, *Pisonia fragrans*, *Bumelia obovata* and *Capparis Breynia*, while *Haemataxylon Brasileto* becomes more prominent; also *Maytenus Sieberiana*, *Fagara monophylla*, *Jacquinia barbasco*, *Erythroxyton havanensis*. At a height of about 200 metres *Coccoloba diversifolia* becomes the principal tree; we also notice the *Schomburgkia tibicinis* and *Trichilia trifolia*, but still the impression is that of a luxurious *Croton* vegetation. *Acacia tortuosa* is still frequent here and also *Phyllanthus Euwensii*, while *Vitex umbrosa* and *Clusia rosea* give a peculiar aspect to the vegetation on the higher parts. On the top *Ficus Brittonii*, *Clusia rosea*, *Maytenus Sieberiana*, *Triplaris coriacea* are frequent, among which *Tecoma chrysantha*, *Caesalpinia coriaria* and many *Lantana camara*, *Cordia cylindrostachya* and *Gundlachia corymbosa*.

So the higher parts especially have a rather different vegetation. The mountainous complex Behoenda and surrounding parts do not reach the same height but in their plant species show much resemblance with the Christoffelberg. The only conspicuous plant I noticed there was *Casearia bonairensis*; besides the bush is somewhat higher and denser in Behoenda than on the lower parts of Christoffelberg.

The poorest vegetation is found on the barer non-calcareous hills,

which are chiefly found in the Eastern part of Curaçao. As a specimen I choose

#### **The Hills near Blauw.**

On the almost barè ground stand widely scattered low small plants of *Evolvulus sericeus* and *Heliotropium humile*, *Aristida Swartziana*, *Tragus racemosa*, *Paspalum glabrum*, *Sida procumbens*. The same sort of vegetation is found on

#### **The Hills near Davelaar.**

These are almost quite bare and show small complexes of somewhat higher *Acacia villosa*, *Croton flavens* and *Caesalpinia coriaria*, but for the rest the only flora is formed by *Bouteloua Humboldtiana* and *Aristida Swartziana*, small plants of *Jatropha gossypifolia*, *Evolvulus sericeus*, *Corchorus hirsutus*, *Tephrosia cinerea*, some *Cereus* plants, *Sida procumbens* and *Diodia rigida*. When on these hills more *Acacia tortuosa* and some other shrubs develop, they are more overgrown. I mention as a specimen:

#### **The Hills near Malpais.**

Here is a rather dense shrub-growth of *Croton flavens*, *Phyllanthus Euwensii*, between which *Cereus griseus* and high shrubs of *Acacia tortuosa*; especially *Acacia villosa* abounds here, while *Caesalpinia coriaria*, *Haematoxylon Brasiletto* and a few *Casearia bonairensis* belong to the higher forms with *Bumelia obovata*, *Randia aculeata* and *Myrtaceae*; an occasional *Guaiacum officinale* is also found on such grounds.

As a more central low hilly part we mention:

#### **The hills between Wacao and Dokterstuin.**

The ground is covered with *Chloris*, *Sida*, *Cassia glandulosa*, *Aristida Swartziana*, while also *Krameria ixina* occurs, and the following shrubs, sometimes in dense masses: *Acacia villosa*, *Beureria succulenta*, *Croton flavens*, *Haematoxylon Brasiletto*, *Lantana camara*, *Malpighia*; amidst these more overgrown hills we see again more bare ones, having a vegetation similar to that described above. In some places it becomes an almost pure *Coccoloba diversifolia* bush, in others *Haematoxylon Brasiletto* prevails with *Beureria succulenta*, while occasionally also *Machaonia Ottonis* is frequent; *Pithecolobum unguis-cati*, *Randia aculeata* and also *Vitex umbrosa* occur on the more densely overgrown hills; in other places *Cordia cylindrostachya* is plentiful, while *Crescentia Cujete* and *Trichilia trifolia* also occur on these hills. Like elsewhere *Cactaceae* abound, although they are not so predominant here as in many parts of Bonaire.

## Aruba.

As representative for the vegetation of the lower calcareous parts of Aruba I choose

### **The country near Manshebo.**

The coral-lime soil is very bare here and scantily overgrown. Melocacti and *Cereus griseus* prevail with *Aristida Swartziana*, *Euphorbia thymifolia*, *Opuntia* and fairly numerous *Jatropha gossypifolia*; an occasional *Prosopis juliflora* is somewhat higher than the other plants. *Jatropha urens* is frequent here. Of the grasses *Cenchrus echinatus*, *Eragrostis Urbaniana*, *Antheophora hermaphroditica*, *Paspalum glabrum* and *Bouteloua Humboldtiana* are noticed; besides *Lithophila muscoides*, *Heliotropium curassavicum*, *Sesuvium portulacastrum*, *Capraria biflora* and *Scoparia annua* as lower herbs. As shrubs or trees we have widely scattered *Conocarpus erecta*, *Suriana maritima*, *Erithalis fruticosa*, *Bumelia obovata*, *Coccoloba uvifera* and *Beureria succulenta* which nowhere form a dense mass. On the low dune formations *Tournefortia gnaphalodes* abounds. As an example of a more elevated lime district we mention:

### **The calcareous table-land near Fontein.**

Here the soil is very bare in some places or covered with a fairly dense mass of shrubs of *Latana camara* and *Cordia cylindrostachya*; *Prosopis juliflora* is abundant and *Aristida Swartziana* covers the ground; whole fields are densely overgrown with *Antirrhoea acutata*. Above these shrubs *Jacquinia barbasco* and often whole complexes of *Peltophorum Suringarii* rise somewhat higher, while this dense mass of shrubs is further formed by *Beureria succulenta*, *Capparis*, *Crescentia Cujete*, *Guaiacum officinale*, *Bursera simaruba*, *Bumelia obovata* and *Cordia alba*.

On spots where the vegetation is less high see besides *Opuntia* many *Pilocarpus racemosus* and *Croton flavens*, other complexes being formed by *Phyllanthus Euwensii* and *Casearia bonairensis*. On the higher part, especially near **Seroe Kadoesji** we also find *Croton niveus*, *Tecoma chrysantha*, *Bumelia obovata*, *Cordia alba*, *Jacquinia barbasco* and *Beureria succulenta*, which form a true forest there. Also Melocacti occur everywhere. As an example of a somewhat different vegetation on chalk table-lands we mention:

### **The calcareous table-lands near Belashi.**

Here again we find a more or less rich *Croton* vegetation. In the bare parts the vegetation on the ground consists of *Dactyloctenium aegyptium*, *Euphorbia thymifolia*, *Eragrostis ciliaris*, *Torulium*

filiforme. *Cyperus uncinatus*, *Portulaca halimoides*, *Lithophila muscoides*, *Sida supina*, *Spermacoce tenuior*, *Physalis* and *Pilea herniarioides*; shrubs and trees are represented by *Cereus griseus* *Cephalocereus lanuginosus*, *Jatropha gossypifolia*, *Phyllanthus Euwensii*, some *Caesalpinia coriaria*, *Capparis*; also *Guaiacum sanctum* occurs here amidst fairly high *Croton flavens*, *Lantana involucrata*, *Casearia bonairensis*, *Bursera tomentosa*, *Melochia tomentosa* and *Malpighia*, while also *Agave vivipara* is frequent amidst *Cereus* and *Opuntia*; sometimes it even forms with these latter the only cover of the lime soil.

A higher hill than the former is:

### **Mirlamar.**

It shows entirely the typical *Croton* vegetation with *Croton flavens*, *Casearia bonairensis*, *Beureria succulenta*, *Bursera simaruba*, between which also *Schoepfia Schreberi*, *Bumelia obovata*, *Caesalpinia coriaria*, many *Pithecolobium platylobum* and *Malpighia*, *Capparis linearis*, *Bursera tomentosa*, *Peltophorum Surin-gari*, *Tecoma chrysantha*, *Guaiacum officinale* and some, but not many, *Acacia tortuosa*. In many places the shrub vegetation is little developed and the ground is then covered by herbs and low shrubs of which a number of ruderal plants attract notice, like: *Physalis*, *Spigelia anthelmia*, *Hyptis pectinata*, *Commelina virginica*, *Sida supina*, *Mitracarpus villosus*, *Spermacoce tenuior*, *Turnera pumilea*, *Elytraria squamosa*, *Bouteloua aristidoides*, *Evolvulus alsinoides*, *Stylosanthes hamata*, *Pectis*. Of the *Cactaceae* *Cereus griseus* and *Cephalocereus lanuginosus* are conspicuous. In the whole hilly complex of Mirlamar and Jamanota *Pithecolobium platylobum* is very prominent, especially in the flowering season, while also *Malpighia* forms large complexes. Poorer than on Mirlamar and its surroundings is the vegetation of

### **The Hills near Andikurie.**

These are barer and we find on them only solitary trees of *Coccoloba diversifolia*, *Capparis Breynia*, *Capparis jamaicensis*, *Caesalpinia coriaria* and *Beureria succulenta*. The hills are sparsely covered with low plants of *Croton flavens*, *Acalypha*, *Opuntia*, *Bouteloua aristidoides*, *Croton ovalifolius*, *Heliotropium humile*, *Sporobolus argutus*. Much less developed, if possible, is the vegetation on

### **The Hills in the N.W. part.**

Here is hardly any cover but *Aristida Swartziana*, *Bouteloua aristidoides*, *Euphorbia thymifolia*, *Paspalum glabrum*, *Lithophila muscoides* with here and there a few complexes of *Cordia cylindrostachya*. *Cereus* and *Opuntia* also occur everywhere, though only in small quantities.

## Bonaire.

For a description of the vegetation of the lower lime regions on Bonaire I choose:

### **The country round Kralendijk.**

Many ruderal plants grow here, e. g. *Parthenium Hysterophorus*. The general impression is that of a poor *Croton* vegetation, consisting of *Acacia tortuosa*, *Prosopis juliflora*, *Croton flavens*, a few *Crescentia Cujete*, *Bursera simaruba*, *Cordia alba* and *Caesalpinia coriaria*; the ground is covered with *Elytraria squamosa*, *Sida*, *Chloris*, *Dactyloctenium aegyptium*, *Eragrostis ciliaris*, *Sporobolus argutus*, *Antheplora hermaphroditica*, *Eragrostis Urbaniana*. A vegetation somewhat similar to this, but without ruderal plants we find in

### **The district near the Southern salt pans.**

Near the sea we see *Conocarpus erecta*, *Avicennia nitida*, *Suriana maritima* and besides *Salicornia ambigua* and *Sesuvium portulacastrum*; in other places we find whole masses of *Metopium Brownei*, whose appearance reminds one of *Hippomane* bushes. At a greater distance from the sea the *Croton* vegetation becomes more prominent, *Lantana involucrata* being very conspicuous and predominating in some places. *Cereus* is not so conspicuous here, but we find many *Haematoxylon Brasileto*, *Coccoloba diversifolia*, *Antirrhoea acutata*, *Croton flavens*, *Waltheria americana*, also *Jacquinia barbasco*. All the shrubs here are low, however, and widely distant. On the ground we find *Euphorbia thymifolia*, *Paspalum glabrum*, *Aristida Swartziana*, *Eragrostis ciliaris*. On other spots *Krameria ixina* is more prevalent with *Cordia cylindrostachya*, while *Melocacti* are again very numerous. The vegetation with higher shrubs reminds us of the more elevated lime regions, of which as a specimen we may take:

### **The lower parts of the lime regions along the road from Rincon to Kralendijk.**

A dense *Croton* vegetation, chiefly consisting of *Beureria succulenta*, *Capparis jamaicensis*, *Bursera sumaruba*, *Prosopis juliflora*, *Haematoxylon Brasileto*, *Crescentia Cujete*, *Cordia cylindrostachya*, *Capparis Breynia*, *Bursera bonairensis*, *Jacquinia barbasco*, *Malpighia*, *Randia aculeata*, *Caesalpinia coriaria*, while *Sida*, *Eragrostis ciliaris*, *Euphorbia thymifolia* form the vegetation of the ground. In some places we find *Krameria ixina*, while many *Evolvulus* occur with *Ipomoea* among the other low plants.

**On the calcareous soil near Bolivia** we find a still denser Croton vegetation. The ground is there in some places densely covered with *Spermacoce tenuior*, *Pectis*, *Pappophorum*, *Sida*, *Aristida Swartziana*, *Croton ovalifolius*, the higher shrubs being mostly *Jacquinia barbasco*, *Bursera simaruba*, *Randia aculeata*, *Malpighia*, *Bursera tomentosa*, *Cordia cylindrostachya*, *Capparis jamaicensis*, *Caesalpinia coriaria*, *Haematoxylon Brasileto*. On the ground we find many *Panicum lachnanthum*, *Krameria ixina*, *Eragrostis ciliaris*. In other places *Rhacoma crossopetalum* and *Coccoloba diversifolia* are the principal shrubs, between which *Pisonia bonairensis*, *Bumelia obovata*, *Guaicum sanctum*, *Beureria succulenta*, *Metopium Brownei*, *Casearia bonairensis* and a few *Tecoma chrysantha* as trees. Among the lower plants we notice *Euphorbia thymifolia*, *Morinda Royoc*, *Mariscus fuliginus*, *Corchorus tomentosus*. On the Northern slopes of these lime terraces *Clusia rosea* is very conspicuous.

As an example of the vegetation on the higher lime table-lands I choose:

#### **The lime table-land near Montagna.**

Here a dense and high forest of shrubs is found, parts of which remind us of a thick wood. Sometimes we meet *Randia* bushes without any underwood; besides we have here many *Bursera bonairensis*, *Bursera simaruba* and *Bursera tomentosa*, *Casearia bonairensis*, *Bumelia obovata*, *Capparis jamaicensis*, *Machaonia Ottonis*, while *Lantana camara* and *Croton flavens* together with *Rhacoma crossopetalum* form the underwood or the chief constituent in most places. Also *Euphorbia cotinifolia* grows here, while of the Cactaceae especially *Cephalocereus lanuginosus* is conspicuous. On the ground we have *Corchorus hirsutus*, *Sida*, *Eragrostis ciliaris*, *Aristida Swartziana*, *Elytraria squamosa*, while *Mariscus fuliginus* and *Ernodia litoralis* are also found here.

As a higher hill not consisting of lime, we mention

#### **The Joewa hills and surroundings.**

We reach these through high dense bushes of shrubs of *Randia aculeata* and *Machaonia Ottonis*, between which hardly any other trees or shrubs occur. On the ground are *Spermacoce tenuior*, *Elytraria squamosa*, *Physalis*, *Opuntia curassavica*. On other spots we find more *Capparis jamaicensis*, *Capparis cynophallophora*, *Prosopis juliflora*, between which many *Cephalocereus lanuginosus*, *Haematoxylon Brasileto*. We further find again whole complexes of *Croton flavens* between which *Casearia bonairensis*, *Lantana camara*, *Maytenus Versluysii*, *Cordia alba*, after which we come again

amidst many *Capparis cynophallophora*. Also *Phyllanthus Euwensii* is frequent in some places with *Cordia alba* and many *Coccoloba diversifolia*. In the higher parts we find lower shrubs and *Rivina humilis*, *Datura Metel*, *Opuntia*, *Dactyloctenium aegyptium*, *Eragrostis ciliaris*, *Physalis* and other more ruderal plants prevail. The highest mountain on Bonaire is:

**Brandaris.**

We reach it again through a dense forest of shrubs with rather high trees, *Phyllanthus Euwensii*, *Capparis cynophallophora*, *Maytenus Versluysii*, *Pisonia bonairensis*, *Capparis jamaicensis* and *Croton niveus* being frequent, *Randia aculeata* sometimes predominant. When we ascend the mountain we see in many places more scattered shrubs, among which the same plants are chiefly found with *Caesalpinia coriaria*, *Haematoxylon Brasiletto* and *Acacia tortuosa*. On the top are very few trees, excepting *Crescentia Cujete*, *Casearia bonairensis* and *Capparis*, the vegetation on the ground consisting there of *Acalypha Poirerii*, *Euphorbia thymifolia*, *Physalis*, while on other spots a dense mass of *Coccoloba diversifolia* is found. On the top and slope of Brandaris also the little fern *Dryopteris concolor* occurs.

**The lower parts of Bonaire outside the lime district.**

These show also a *Croton* vegetation with *Acacia tortuosa*, *Croton flavens*, *Melochia tomentosa*, *Phyllanthus Euwensii*, *Randia aculeata* as the most frequent shrubs, while also *Capparis cynophallophora*, *Capparis jamaicensis*, *Croton niveus*, *Malpighia puniceifolia*, *Pithecolobium unguis-cati* are often found. The ground is covered with ruderal plants, the same as in other parts of the island.

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## CHAPTER III

### A comparison of the vegetation of Curaçao, Aruba and Bonaire with that of Margarita.

As Margarita is an island not far from Curaçao, and very elaborately studied with regard to its flora<sup>1)</sup>, it is certainly worth while to compare the floras of these four islands.

Johnston gives on page 297 a short comparison of the flora of Margarita with that of Curaçao, as it was known in 1909. He arrives at the conclusion, based on the still very incomplete data at his disposal (Suringar's journey) that of the 117 known Curaçao plants 50 had not yet been found on Margarita.

At present it appears from my investigations in the Systematical Part that of the 399 wild plants in the Dutch West Indian Islands 150 have also been found on Margarita. So we have:

Curaçao, Aruba, Bonaire	+	Margarita	150
Curaçao, Aruba, Bonaire			249
		Margarita	440
399		590	

These numbers diverge considerably from those given by Johnston (p. 302), namely 400 for Curaçao, of which 100 not on Margarita. From these numbers and more still from the figures of list p. 138, appears that the flora of Margarita is numerically very different from that of the Dutch W. I. Islands.

Margarita is much larger than the Dutch Islands. It is not only its size, however, which causes the larger number of species but still more the circumstance that higher mountains occur there, reaching a height of 800 metres.

Although Johnston says (p. 301) that his flora probably does not

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<sup>1)</sup> J. R. Johnston: Flora of the Islands of Margarita and Coche.

Contributions from the Gray Herbarium of Harvard University. New Series. No. XXXVII (Printed June 1909).



contain more than  $\frac{3}{4}$  of the real number of species, yet it seemed to be desirable to compare this flora more closely with the plants, mentioned in my Systematical part.

Johnston's flora has 157 genera, not including Filices, which are not found on Curaçao, Aruba and Bonaire and of these some 70 have no representatives at a higher altitude than 300 metres, while about 80 genera are only found above 300 metres.

So, if we compare the floras of the four islands we must not include these genera, occurring above 300 metres.

Overagainst these 70 genera of the lower parts which were found by Johnston and not by me, we have also some 70 which are found on Curaçao, Aruba and Bonaire but not on Margarita.

While the flora of Margarita mainly differs from that of the Dutch Leeward Islands by the occurrence of a peculiar flora in the higher parts, it appears that of the 36 wild indigenous Antillean plants which are also found on Margarita, only 8 occur in the Dutch Islands. So we have

Dutch Leeward Islands	+	Margarita	8
"	"	"	37
		Margarita	28

these numbers being for the South American indigenous plants

Dutch Leeward Islands	+	Margarita	2
"	"	"	20
		Margarita	38

These data prove to some extent that the Dutch Islands have more resemblance to the Antilles and less to South America than Margarita. We refer to what was said on page 129 about the geology of Margarita. As a further peculiarity we mention the very rare occurrence of grasses on Margarita, contrary to Curaçao, where many more species are found and where they are not scarce at all.

Cactaceae cover whole fields in Margarita and this agrees entirely with certain parts of Bonaire; the Bromeliaceae which are so conspicuous on Margarita play a subordinate part in the Dutch W. I. Islands. The typical tropical families like Melastomataceae, Aroideae, Piperaceae are entirely lacking in the Dutch Islands, contrary to Margarita.

As far as can be inferred from Johnston's descriptions (l. c. p. 278 ff.) the vegetation along the sea coast is similar in type to

that of the Dutch Islands; *Castela* which occurs on Margarita is lacking in the Dutch Islands. Also the Mangrove vegetation is mainly the same. The interior lowland of Margarita is covered by a *Croton* vegetation, similar to that of the Dutch Islands, although in these latter *Heteropteris* and *Sterophoma* are absent and not quite the same *Capparis* species are found.

On the lower hills *Capparis linearis* is characteristic, which occurs in the Dutch Islands on the higher hills.

Above 300 metres we already find on Margarita denser forests which cannot be compared with the vegetation of the Dutch Islands.

Without entering into details it must be observed that a fairly large number of plants, found in the higher parts of Margarita, also occur in the higher parts of the Dutch Islands St. Eustatius and Saba or are represented by related species.

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## VERNACULAR NAMES.

- Aardappel = *Solanum tuberosum*.  
Adonis = *Duranta erecta*.  
Alfalfa = *Medicago sativa*.  
Amooro falso = *Mentzelia aspera*.  
Angglo = *Tribulus terrester*.  
Angglo boobo = *Kallstroemia caribaea* en *Kallstroemia curta*.  
Arraroot = *Maranta arundinacea*.  
Awakaati = *Persea americana*.  
Bai no boolbee = *Strumpfia maritima*.  
Bakooba = *Musa paradisiaca*.  
Banaana = *Musa paradisiaca*.  
Banaana die rif = *Batis maritima*.  
Banaana sjimarón = *Schomburgkia tibicinis*.  
Barba die jonkeman = *Albizzia lebbek*.  
Barba die kadoesji = *Tillandsia recurvata*.  
Barra blanko = *Croton niveus*.  
Bassoora die lieber = *Parthenium Hysterophorus*.  
Bassoora korraa = *Melochia tomentosa*.  
Bassoora pleintsji = *Sida spinosa* var. *angustifolia*.  
Bataata die poorko = *Boerhaavea erecta*, *Boerhaavea coccinea* and  
*Boerhaavea paniculata*.  
Bataata die soembi = *Solanum argillicolum*.  
Bataata djoekoe = *Ceratosanthes corniculata*.  
Bataata doesji = *Ipomoea batatas*.  
Bataata heel = *Morinda Royoc*.  
Beembee = *Portulaca oleracea*.  
Beembee sjimarón = *Portulaca venezuelensis*.  
Beera = *Guaiacum sanctum*.  
Begissima = *Antigonon leptopus*.  
Behoekoe = *Serjania curassavica*.  
Belladonna = *Datura Metel*.  
Bell apple = *Passiflora laurifolia*.  
Benboom = *Moringa oleifera*.

- Bermuda ceder = *Juniperus bermudianus*.  
 Berrehein = *Solanum Melongena*.  
 Bessji die kalakoena = *Coccoloba diversifolia*.  
 Bessji die tinta = *Passiflora suberosa*.  
 Bessji igoeaana = *Celtis Iguanaea*.  
 Bessji kabrieto = *Condalia Henriquezii*.  
 Betoonika = *Melochia tomentosa*.  
 Bittere cassave = *Manihot carthaginensis*.  
 Blomtsji die kokaliesji = *Clitoria ternatea*.  
 Boeloebarie = *Guaiacum sanctum*.  
 Boeraatsji = *Pilocarpus racemosus*.  
 Boetsji = *Melocactus*.  
 Boontsji die paaloe = *Erythrina velutina*.  
 Boontsji jangadoor = *Vigna unguiculata*.  
 Boontsji kabaai = *Desmodium molle*.  
 Boontsji karta = *Erythrina velutina*.  
 Boontsji palooma = *Clitoria ternatea*.  
 Boontsji streena = *Parkinsonia aculeata*.  
 Bosopaata = *Dactyloctenium aegyptium*.  
 Bossoea = *Fagara monophylla*.  
 Boulanger = *Solanum Melongena*.  
 Brak gras = *Sporobolus argutus*.  
 Brak gras saaloe = *Cynodon dactylon*.  
 Brazieja = *Haematoxylon Brasileto*.  
 Breebee = *Cereus repandus*.  
 Breebee die poesji = *Cephalocereus lanuginosus*.  
 Bringga moosa = *Jatropha urens*.  
 Broeska = *Cassia occidentalis* en *Cassia Sophera*.  
 Broeska doesji = *Cassia bicapsularis*.  
 Broodboom = *Artocarpus incisa*.  
 Campessji = *Haematoxylon Brasileto*.  
 Cassave = *Manihot utilissima*.  
 Cassave die moondi = *Manihot carthaginensis*.  
 Ceraasji maatsjoe = *Trichilia trifolia*.  
 Citroen = *Citrus medica*.  
 Curahout = *Peltophorum Suringari*.  
 Daalpeega = *Mentzelia aspera*.  
 Daabaroeieda = *Pithecolobium platylobum*.  
 Daader = *Phoenix dactylifera*.  
 Daatoe = *Cereus griseus*.  
 Dam maatsjoe = *Clusia alba*.  
 Dividivi = *Caesalpinia coriaria*.

- Djoekoe = *Caesalpinia ciliata*.  
 Dreifi die lamán = *Coccoloba uvifera*.  
 Dreifi sjimarón = *Coccoloba diversifolia*.  
 Ekaakes = *Chrysobalanus icaco*.  
 Elefanti = *Polygala angustifolia*.  
 Fantasiaea = *Ceratosanthes corniculata*.  
 Ficus = *Ficus elastica*.  
 Flaira = *Jatropha gossypifolia*.  
 Flamboyant = *Poinciana regia*.  
 Floor die sangger = *Lantana camara*.  
 Foema = *Vitex umbrosa*.  
 Foengfoeng = *Desmodium molle*.  
 Foengfoeng homber = *Sida spinosa* var. *angustifolia*.  
 Frikampeeuw = *Opuntia tunoides*.  
 Geelhout = *Casearia bonairensis*.  
 Giambo = *Hibiscus esculentus*.  
 Giambo sjimarón = *Malachra alceifolia*.  
 Giени gras = *Panicum maximum*.  
 Goeaana = *Beureria succulenta*.  
 Goeaazoema = *Guazuma ulmifolia*.  
 Goeajaaba = *Psidium Guajava*.  
 Goeaako = *Mikania scandens*.  
 Goeamaatsjoe = *Peireskia bleo*.  
 Goorda kapaa = *Desmodium molle*.  
 Granaatappel = *Punica Granatum*.  
 Grijeze manggel = *Conocarpus erecta*.  
 Haabriman = *Dactyloctenium aegyptium*.  
 Hielo die diaabel = *Cuscuta americana*.  
 Hoerihoeri = *Capparis cynophallophora*.  
 Hooba = *Spondias Mombin*.  
 Horse radish = *Capparis Breynia*.  
 Indjoe = *Prosopis juliflora*.  
 Jaaga = *Pithecolobium platylobum*.  
 Jamaani tobakkoe = *Clitoria ternatea*.  
 Jaatoe = *Cereus griseus*.  
 Jeerba die glas = *Ipomoea incarnata*.  
 Jeerba die kaania = *Thalassia testudinum*.  
 Jeerba die koetsjoe = *Mariscus brizaeus*.  
 Jeerba die kooko = *Cyperus esculentus*.  
 Jeerba die lamón = *Andropogon Schoenanthus*.  
 Jeerba die leebe = *Waltheria americana*.  
 Jeerba die leetsji = *Euphorbia spec.*

- Jeerba die piepa = *Boerhaavea scandens*.  
 Jeerba die seeroe = *Croton ovalifolius*.  
 Jeerba die seis = *Indigofera suffruticosa*.  
 Jeerba die sonja = *Dalea phymatodes*.  
 Jeerba fieni = *Sporobolus argutus*.  
 Jeerba foékoe = *Sida spinosa*.  
 Jeerba froemingga = *Chenopodium ambrosioides*.  
 Jeerba holee = *Ocimum gratissimum* and *Ocimum sanctum*.  
 Jeerba igoeaana = *Celtis Iguanaea*.  
 Jeerba kaaja = *Gynandropsis pentaphylla*.  
 Jeerba kaneeuw = *Portulaca halimoides*.  
 Jeerba kaneeuw maatsjoe = *Portulaca venezuelensis*.  
 Jeerba kanggreeuw = *Boerhaavea scandens*.  
 Jeerba kareeta = *Croton glandulosus*.  
 Jeerba koessientsji = *Lithophila muscoides*.  
 Jeerba koleebra = *Sansevieria guineensis*.  
 Jeerba konijntsji = *Portulaca halimoides*.  
 Jeerba kraabo = *Croton lobatus*.  
 Jeerba maisji sjikietoe = *Mariscus fuliginus*.  
 Jeerba mosterd = *Capparis cynophallophora* and *Capparis Breynia*.  
 Jeerba pataaka = *Cissampelos Pareira*.  
 Jeerba plaata = *Evolvulus alsinoides*.  
 Jeerba poesji = *Portulaca halimoides*.  
 Jeerba ragadiesji = *Rhynchosia minima*.  
 Jeerba staasia = *Bouchea Ehrenbergii*.  
 Jeerba stinķi = *Datura Metel*.  
 Jeerba tónka = *Gliricidia sepium*.  
 Jeerba tsjiekoe = *Evolvulus alsinoides*.  
 Jeerba tsjoebaatoe = *Croton ovalifolius*.  
 Johnsongras = *Andropogon sorghum* var. *halepensis*.  
 Juffrouw = *Opuntia tunoides*.  
 Kaaka die poesji = *Opuntia curassavica*.  
 Kaasjoe = *Anacardium occidentale*.  
 Kaasjoe die Surinaam = *Eugenia javanica*.  
 Kabeez die seeroe = *Melocactus*.  
 Kabeez indian = *Melocactus*.  
 Kabeez inglees = *Melocactus*.  
 Kabeez die mariekoe = *Omphalophthalmus ruber*.  
 Kaboeja die klimop = *Cissus sicyoides*.  
 Kaboeja die trankeer = *Cissus sicyoides*.  
 Kaboeja igoeaana = *Ipomoea muricata*.  
 Kaboeja korraa = *Cissus sicyoides*.



- Kaboeja makoetoe = *Cardiospermum corindum* and *Cissus sicyoides*.  
 Kadoesji = *Cereus griseus* and *Cereus repandus*.  
 Kadoesji die poesji = *Cephalocereus lanuginosus*.  
 Kadoesji spanjool = *Cephalocereus lanuginosus*.  
 Kajoeda = *Anona palustris*.  
 Kalabarie = *Fagara flava*.  
 Kalaloe = *Amarantus tristis*.  
 Kalaloe die poorko = *Amarantus polygonoides*.  
 Kalieber = *Opuntia curassavica*.  
 Kallebas rondo = *Crescentia Cujete*.  
 Kamaalia = *Coccoloba diversifolia*.  
 Kamaari = *Coccoloba diversifolia*.  
 Kamille sjimarón = *Lippia reptans*.  
 Kamoe = *Mariscus brizaeus*.  
 Kamoesji = *Eleusine indica*.  
 Kanja = *Saccharum officinarum*.  
 Karawaara = *Cordia alba*.  
 Karawaara spanjool = *Cordia Sebestena*.  
 Karisjoeri = *Cordia cylindrostachya*.  
 Karkidaaki = *Phyllanthus Euwensii*.  
 Karpaata = *Ricinus communis*.  
 Katoena = *Gossypium hirsutum*.  
 Katoena die seeda = *Calotropis procera*.  
 Katoenboom = *Ceiba pentandra*.  
 Kaubaati = *Fagara monophylla* and *Krugiodendron ferreum*.  
 Keedebéssji = *Capparis linearis*.  
 Kelki heel = *Stenolobium stans*.  
 Keneepa = *Melicocca bijuga*.  
 Kiebrahátsja = *Tecoma chrysantha*.  
 Kivieti = *Croton niveus*.  
 Klaas moelaato = *Tournefortia volubilis*.  
 Klap = *Physalis angulata*.  
 Koeieda = *Prosopis juliflora*.  
 Koeiegi = *Prosopis juliflora*.  
 Koeki indian = *Agave vicina* and *Agave vivipara*.  
 Koeki spanjool = *Agave vicina*.  
 Koetsjaara = *Antirrhoea acontata*.  
 Koetsjoe = *Clusia alba*.  
 Kokolodee = *Heliotropium indicum*.  
 Kokolodee sjimarón = *Heliotropium curassavicum*.  
 Kokorobaana = *Tournefortia gnaphalodes*.  
 Komtsji koe skotter = *Asclepias nivea*.

- Kooko = *Cocos nucifera*.  
 Kooko die amiena = *Cyperus esculentus*.  
 Kopijk = *Clusia alba*.  
 Koroon die la birgi = *Passiflora foetida*.  
 Korta mán = *Mariscus brizaesus*.  
 Kruizebloem = *Passiflora foetida*.  
 Kwareel = *Boerhaavea scandens*.  
 Laabra = *Pisonia bonaiensis*.  
 Larachá = *Citrus*.  
 Lamoentsji die Surinaam = *Triphasia trifoliata*.  
 Lamoentsji sjimarón = *Triphasia trifoliata*.  
 Leele = *Randia aculeata*.  
 Leengga die baaka = *Spigelia anthelmia*.  
 Leengga die tsoetsjoebi = *Ceratosanthes corniculata*.  
 Lemmetje = *Citrus*.  
 Lemoen = *Citrus*.  
 Lemoengras = *Andropogon Schoenanthus*.  
 Loanggo = *Stemodia maritima*.  
 Loembra blanko = *Erithalis fruticosa* and *Croton niveus*.  
 Loembra maatsjoe = *Morinda Royoc*.  
 Logwood = *Haematoxylon Brasiletto*.  
 Lokki lokki = *Phyllanthus Euwensii*.  
 Magdalena = *Isocarpha oppositifolia*.  
 Mahoebaari = *Pisonia bonaiensis*.  
 Mahók = *Swietenia Mahagoni*.  
 Maisji grandi = *Zea Mays*.  
 Maisji grandi sjimarón = *Commelina virginica*.  
 Maisji raboe = *Lippia reptans* and *Andropogon sorghum* var. *sativus*.  
 Maisji sieete simàn = *Andropogon sorghum* var. *sativus*.  
 Maisji sjikietoe = *Andropogon sorghum* var. *sativus*.  
 Maisji tolalieka = *Panicum velutinsum*.  
 Makka pruim = *Spondias purpurea*.  
 Makoeraa = *Abrus precatorius*.  
 Maloieda = *Solanum nigrum* var. *americanum*.  
 Malohie = *Andropogon Schoenanthus*.  
 Mammeia = *Mammea americana*.  
 Mammootika = *Momordica Charantia*.  
 Mampoerietoe = *Porophyllum macrocephalum*.  
 Manggel = *Conocarpus erecta*.  
 Manggel blanko = *Conocarpus erecta* and *Avicennia nitida*.  
 Manggel die sabaana = *Coccoloba diversifolia* and *Triplaris coriacea*.  
 Manggel tán = *Rhizophora Mangle*.

- Manggo = *Mangifera indica*.  
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 Mankeman seeboe = *Tephrosia cinerea*.  
 Manoeweeri = *Amoreuxia palmatifida*.  
 Manzalienja = *Hippomane mancinella*.  
 Manzalienja boobo = *Euphorbia cotinifolia* and *Metopium Brownei*.  
 Maraaka = *Passiflora foetida*.  
 Maria bo kee beendeemi = *Dactyloctenium aegyptium*.  
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 Marie pompoen = *Omphalophthalmus ruber*.  
 Marihoeri = *Manihot carthaginensis*.  
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 Masjiboeri = *Pisonia bonairensis*.  
 Mata galienja = *Acacia villosa*.  
 Mata komblees = *Ammannia latifolia*.  
 Mata paaloe = *Ficus Brittonii*.  
 Mata piskaa = *Jacquinia barbasco*.  
 Mata poorko = *Boerhaavea erecta*, *Boerhaavea coccinea* and *Boerhaavea paniculata*.  
 Mata ratón = *Gliricidia sepium*.  
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 Mispoe = *Achras sapota*.  
 Moesti sámbo = *Pisonia bonairensis*.  
 Montánja = *Desmanthus depressus*.  
 Moora = *Mentzelia aspera*.  
 Naranja = *Citrus*.  
 Neboeha = *Passiflora suberosa*.  
 Nigieta die Malpais = *Acacia villosa*.  
 Nopal = *Opuntia tuna*,  
 Oebaada = *Acacia tortuosa*.  
 Oenkoe = *Cyperus articulatus*.  
 Olieba = *Bontia daphnoides* and *Capparis jamaicensis*.  
 Olieba maatsjoe = *Capparis Breynia*.  
 Olyfi = *Bontia daphnoides*.  
 Oregano = *Cordia globosa*.  
 Orengga = *Moringa oleifera*.  
 Otaheite = *Thespesia populnea*.  
 Oude wijven = *Vigna unguiculata*.  
 Paaloe die bessji = *Condalia Henriquezii*.  
 Paaloe die Bonaire = *Casearia bonairensis*.  
 Paaloe die heeroe = *Machaonia Ottonis*.

- Paaloe die lamán = *Coccoloba diversifolia*.  
 Paaloe die leetsji = *Bumelia obovata*.  
 Paaloe die loora = *Capparis cynophallophora*.  
 Paaloe die moora = *Chlorophora tinctoria*.  
 Paaloe die takki = *Geoffraea superba*.  
 Paaloe doesji = *Clorophora tinctoria*.  
 Paaloe hóekoe = *Jacquinia barbasco*.  
 Paaloe ploéta = *Bumelia obovata*.  
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 Paloe sieja doesji = *Bursera simaruba*.  
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 Paaloe zapateero = *Morinda Royoc*.  
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 Pam die diaabel = *Morinda Royoc*.  
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 Pieta vlas = *Furcraea gigantea*.  
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 Pokhout = *Guaiacum officinale*.  
 Polber sjimarón = *Argemone mexicana*.  
 Polet die piedra = *Lithophila muscoides*.  
 Pompoen = *Cucurbita maxima*.  
 Promente = *Capsicum frutescens*.

- Raaba = *Capparis cynophallophora* and *Capparis Breynia*.  
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 Rais die pataaka = *Cissampelos Pareira*.  
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 Ratoneera = *Gliricidia sepium*.  
 Red manggel = *Coccoloba diversifolia*.  
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- Tamarijn = *Tamarindus indica*.  
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 Waada waada maatsjoe = *Boerhaavea erecta*, *Boerhaavea coccinea*  
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 Watakeeli = *Beureria succulenta*.  
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 Watapaana = *Caesalpinia coriaria*.  
 Watapaana sjimarón = *Acacia villosa*.

- Wild dividivi = *Acacia villosa*.  
Wilde amandel = *Terminalia Catappa*.  
Wilde salie = *Croton flavens*.  
Wild komkommer = *Cucumis Anguria*.  
Wild manggel = *Pisonia bonairensis*.  
Wild trommelstok = *Cassia bicapsularis*.  
Witte manggel = *Conocarpus erecta*.  
Yucca amaara = *Manihot carthaginensis*.  
Zandkokerboom = *Hura crepitans*.  
Zeedreifi = *Coccoloba uvifera*.  
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*Evolvulus Columbianus* Meissn. 87.

*Evolvulus glaber* Spreng. 87.

*Evolvulus mucronatus* Sw. 87.

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*Ficus Carica* Linn. 21.

*Ficus elastica* Roxb. 21.

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*Fimbristylis brizoides* Nees 13.

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*Heliotropium humile* R. Br. 93.

*Heliotropium indicum* Linn. 93.

*Heliotropium parviflorum* Linn. 94.

*Hemicarpha subsquarrosa* Nees  
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*Heterostega juncifolia* H. B. K. 7.

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*Hibiscus esculentus* Linn. 65.

*Hibiscus phoeniceus* Jacq. 65.

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*Hyptis pectinata* Poit. 96.

*Hyptis suaveolens* Poit. 97.

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*Indigofera suffruticosa* Mill. 40.

*Indigofera tinctoria* Linn. 40.

*Ipomoea acuminata* R. et Sch. 89.

*Ipomoea batatas* Poir. 89.

*Ipomoea calantha* Gris. 89.

*Ipomoea carnea* Jacq. 89.

*Ipomoea commutata* R. et Sch.  
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*Ipomoea glaberrima* Boj. 90.

*Ipomoea heptaphylla* Voigt. 90.

*Ipomoea incarnata* Choisy. 90.

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*brata* Gris. 89.

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*Ipomoea Nil* Roth. 90.

*Ipomoea pentaphylla* Jacq. 89.

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*Ipomoea pulchella* Gris. 90.

*Ipomoea pulchella* Roth. 90.

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*Jasminum pubescens* Willd. 85.

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*Jatropha gossypifolia* Linn. 54.

*Jatropha multifida* Linn. 55.

*Jatropha urens* Linn. 55.

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*Panicum insulare* G. F. W. Mey 5.  
*Panicum lachnanthum* Torr. 5.  
*Panicum maximum* Jacq. 5.  
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*Panicum paspaloides* Pers. 5.  
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P. h. = hills near St. Patrick, Curaçao . . . . .	69
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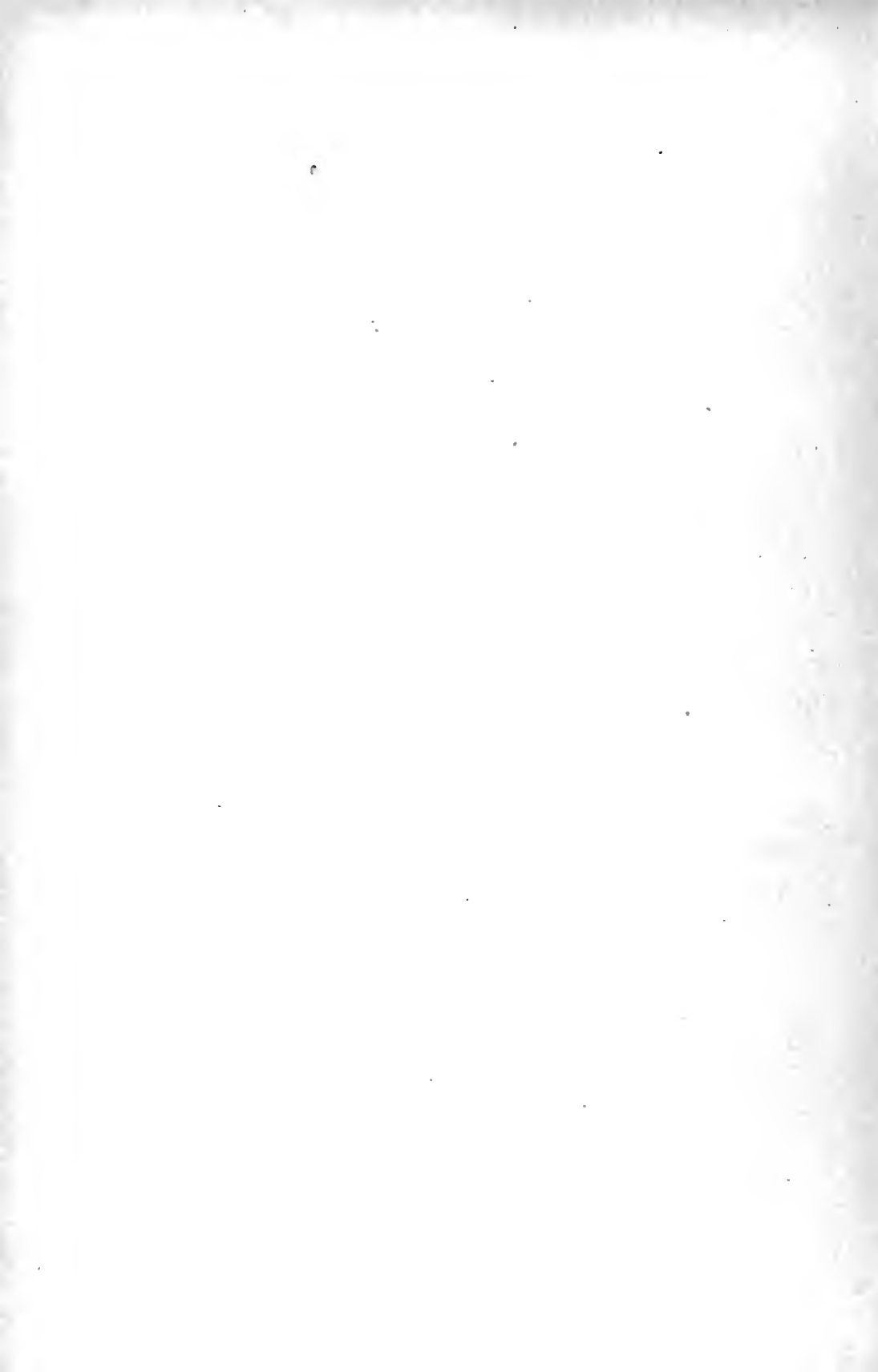
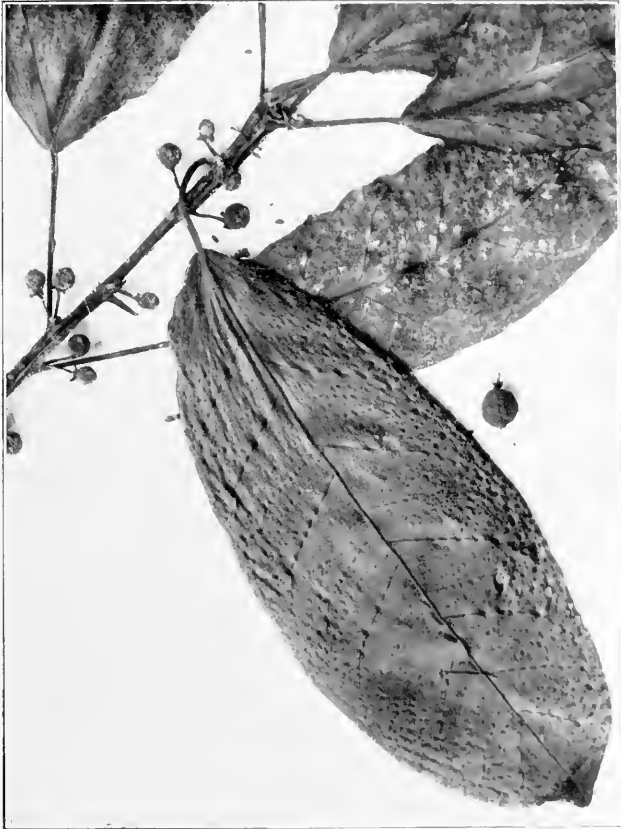


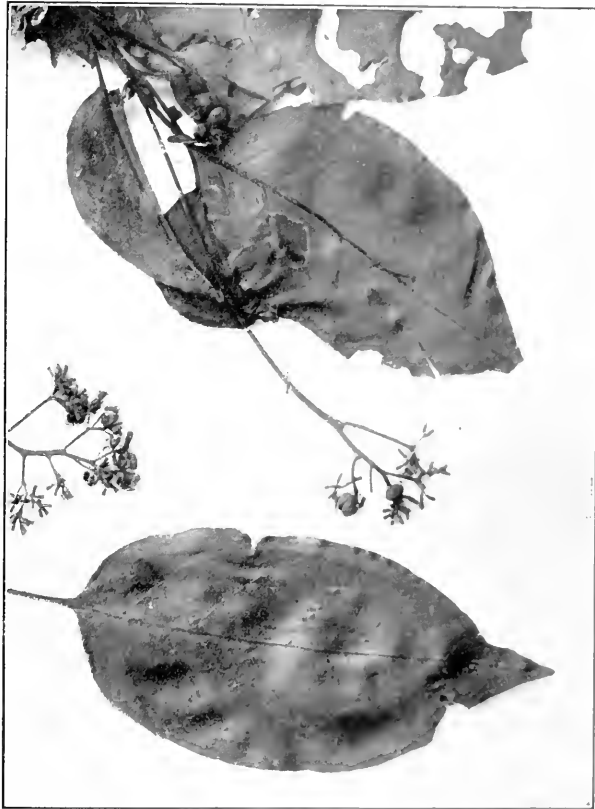
PLATE I. *Ficus Brittonii* Bold.



Phot. I. BOLDINGH.



PLATE II. *Pisonia bonariensis* Bold.



Phot. I. BOLDING.





PLATE III. *Bursera bonariensis* Bold.



Phot. I. BOLDINGH.



PLATE IV. *Phyllanthus Earensii* Bold.



Phot. I. BOLDINGH.



PLATE V. *Croton curassavica* Bold.



Phot. J. BOLDINGH.



PLATE VI. *Myrtus Vorshysii* Bold.



Phot. I. BOLDINGH.





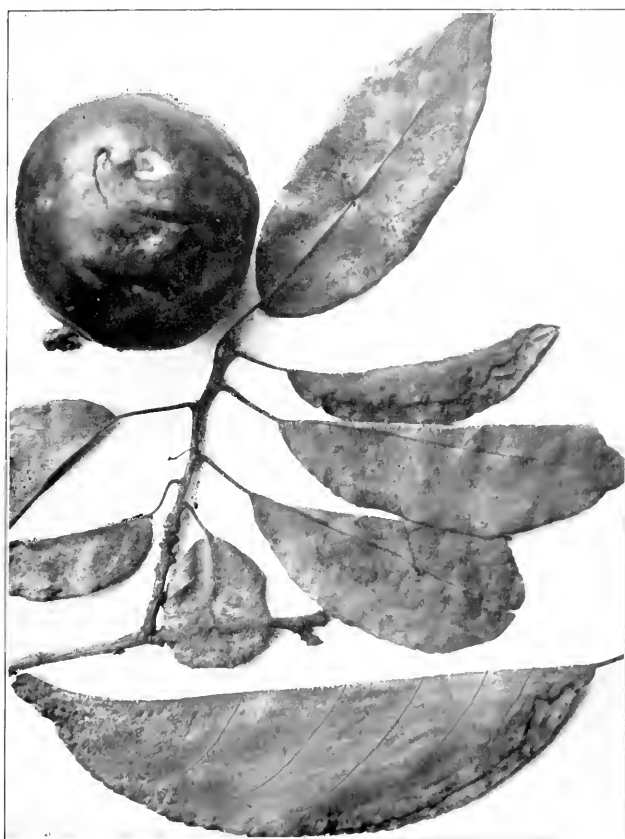
PLATE VII. *Condalia Henriquezii* Bold.



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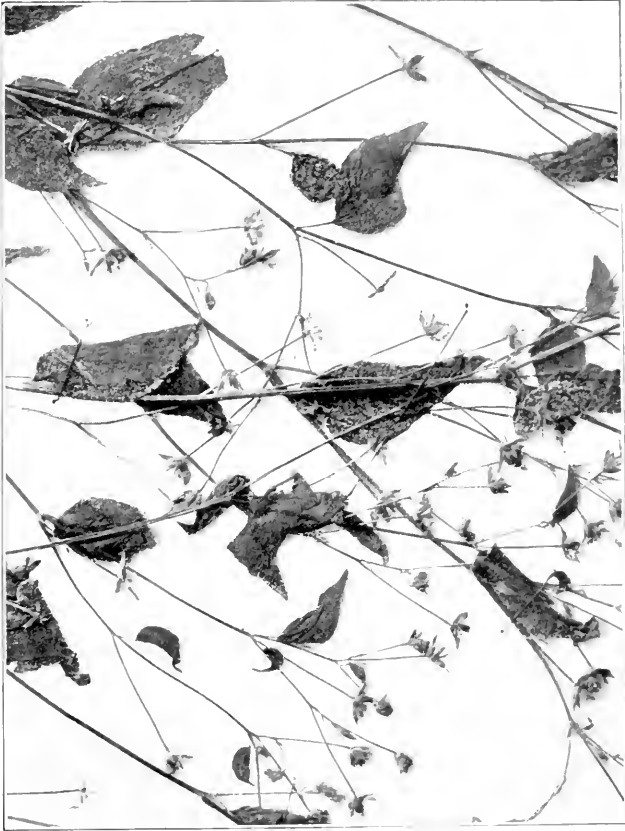
PLATE VIII. *Casuaria bonariensis* Bold.



Phot. I. BOLDINGH.



PLATE IX. *Metapodium bonairensis* Bold.



Phot. I. BOLDINGII.








ARUBA.

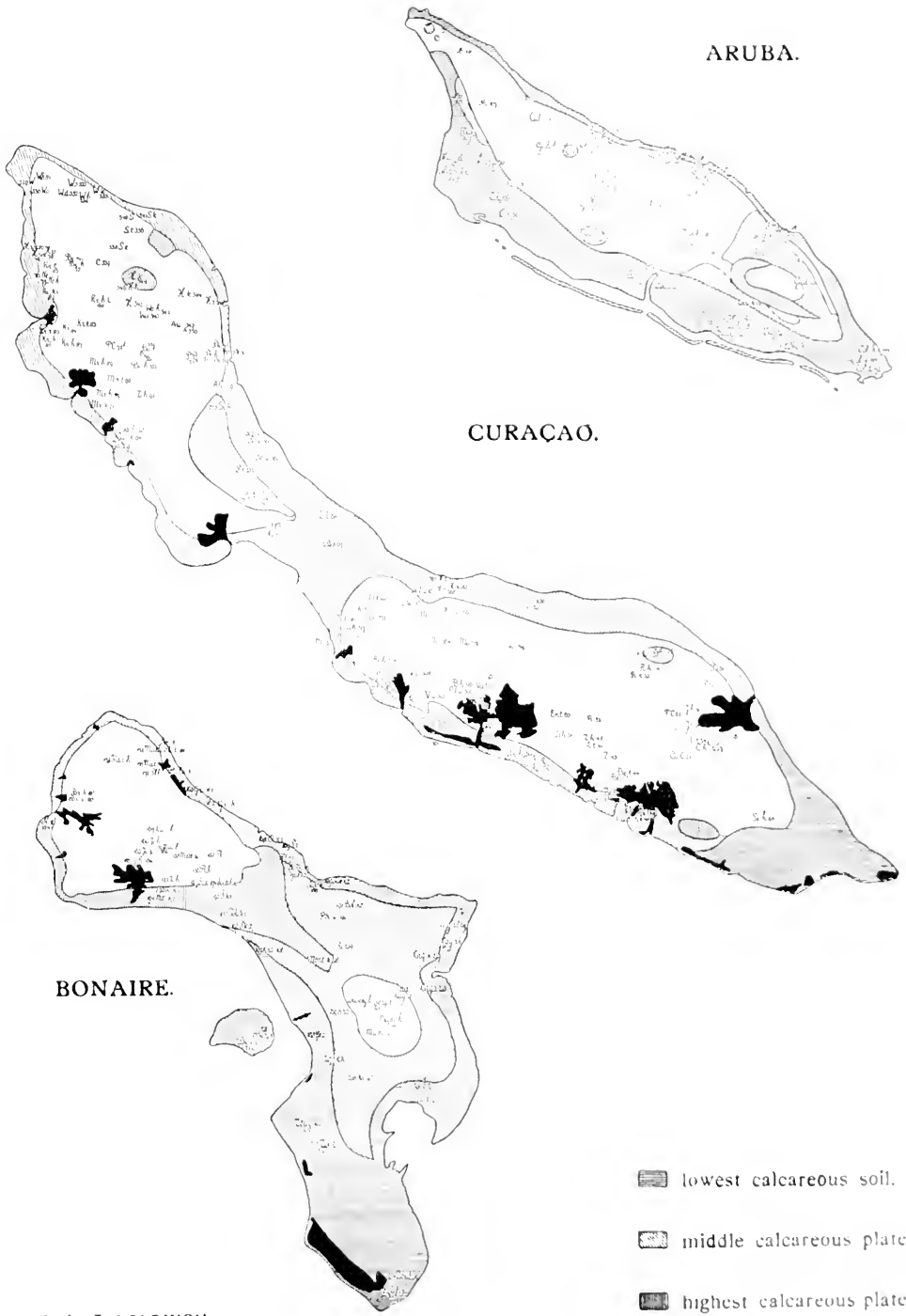
CURAÇAO.

BONAIRE.

Delin. I. BOLDINGH.

-  lowest calcareous soil.
-  middle calcareous plateau.
-  highest calcareous plateau.
-  non calcareous soil.
-  bays and lagoons.

0 10 20 30 K.M.







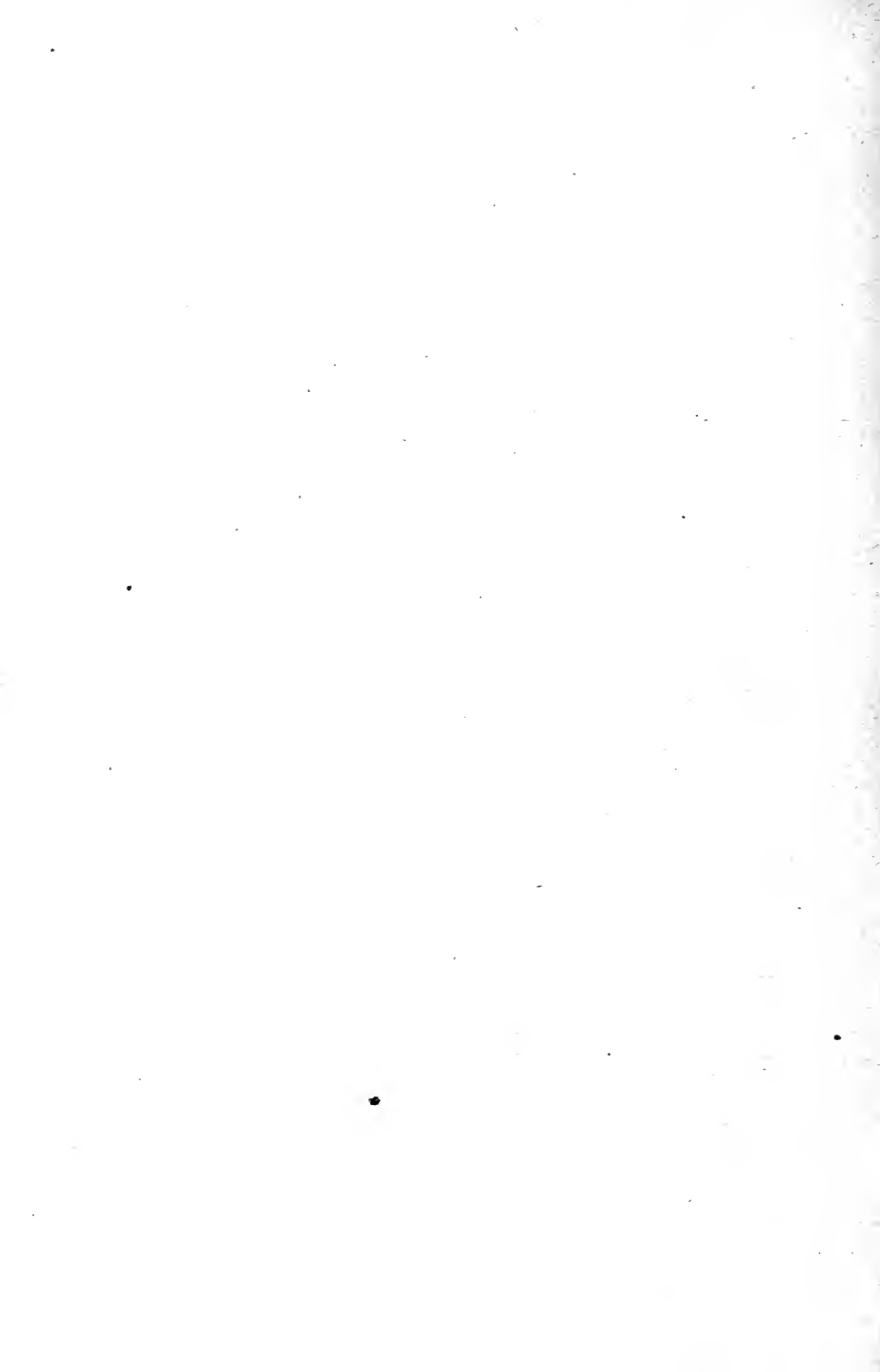












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