STUDIES ON THE FAUNA OF CURAÇAO AND OTHER CARIBBEAN ISLANDS: No. 17.

DESCRIPTION OF NEW LOCALITIES

by

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A recent collecting trip extended the region to which these *Studies* originally referred in such a way that it seemed wise to change the original title, so that not only the arid area off the North coast of South America was indicated as the field of study.

Although as yet these *Studies* are principally based on material collected by the editor on his three trips to the Caribbean, this volume proves that results obtained from material of different origin will be incorporated.

The collecting trips of 1930 and 1936/37 were reported in the first volume of this series, whereas the land habitats, and fresh and brackish water habitats from which material was gathered, were described in the second.

The third trip, which was sponsored by the Government of the Netherlands Antilles and which lasted from July 16th 1948 to September 14th 1949, was not made especially with a view to collecting zoological material. Yet there were many former localities which could be revisited, and collecting took place in several new ones. Special attention could be given to the shallow coastal zone and the salt ponds, a thing neglected in 1936/37.

A special collecting trip was organised from the 9th of May till the 11th of August 1949 to the Netherlands islands of the Windward group as well as to Islote Aves, St. Kitts-Nevis, St. Barts and Anguilla. An opportunity for a flying visit to New Providence and the Bimini Islands (Bahamas) was offered from August 15th till the 23rd.

Besides to the Government of the Netherlands Antilles, and to the Board of Governors of Utrecht University, who enabled me to make my last trip, I should like to offer my thanks — omitting but not forgetting many personal connections — to the Head of the Department of Education in Curaçao for assisting me in carrying out my plans, and to the Governors of the Curaçao Museum for putting the museum building at my disposal as headquarters. A donation of the Development Planning Bureau, at Curaçao, and the Curaçao Tourist Commission enabled me to undertake the Bimini trip, during which I was a guest of The Lerner Marine Laboratory.

Attention may be drawn to the significance of the following terms which are often quite differently used:

West Indies	Antilles, Bahamas, Florida Keys, Bermuda, Cayman Islands, Swan Island, Old Providence, San Andrés
Antilles	from Cuba to Trinidad and Aruba
Greater Antilles	from Cuba to Puerto Rico
Lesser Antilles	from Virgin Islands to Trinidad and Aruba
Windward Group	from Virgin Islands to Grenada (Bovenwindse Eilanden, Islas de Barlovento, Isles sur le Vent, Inseln über dem Winde)
(Caribbees	from Sombrero to Grenada)
Leeward Islands	(British denomination) from Virgin Islands to Dominica
Windward Islands	(British denomination) from Martinique to Grenada
Leeward Group	from Los Testigos to Aruba and Los Monges (Benedenwindse Eilanden, Islas de Sotavento, Isles sous le Vent, Inseln unten dem Winde)

THE ISLANDS WHERE MATERIAL HAS BEEN COLLECTED

Station land / fresh and brackish water / marine / salt pond	*Island* or territory	*Geographic situation*	*Length* × *width* in km	*Area* in sq. km	*Highest point* in m	*Inhabitants*
		(approximate		values !		)
	(South American mainland)					
121–123, 125, 127, 301/1–2, 4–7, 371/1202–1203/–	*NE. Venezuela*	—	—	—	—	—
124/3/–/–	Morro de Esmerarda	10°39′/63°30′	$^3/_4 \times ^1/_2$	$^1/_4$	70	0
125/–/–/–	Morro de Puerto Santo	10°44′/63°10′	$1 \times ^2/_3$	$^1/_3$	100	0
128/–/–/–	Isla de Caribes	10°42′/63°51′	$1^1/_4 \times ^1/_2$	$^1/_3$	30	50
279–284/105–110/–/–	*Península de Paraguaná*	—	—	—	—	—
285–294/111–115/1201/–	*Península de la Goajira*	—	—	—	—	—
368–369/118–120, 406–409/–/–	*Suriname*	—	—	—	—	—
295, 365–367/116–117/–/–	*Trinidad*	—	—	—	—	—
	(Leeward Group)					
129/8/–/–	*Coche*	10°44′–10°48′/63°54′–63°60′	$12 \times 5^1/_2$	50	60	3000
130/9/–/–	*Cubagua*	10°48′–10°50′/64°9′–64°14′	$9^1/_2 \times 2^1/_2$	$26^1/_2$	60	30
131–155/10–28/1216–1217/–	*Margarita*	10°52′–11°11′/63°47′–64°25′	70×33	850	990	70000
156/–/–/–	Isla Blanca *Los Testigos*	10°58′/63°48′	$^1/_{10} \times ^1/_{20}$	$^1/_{400}$	30	0
157–158/29–30/–/–	La Iguana	11°21′/63°5′	$1^1/_2 \times ^2/_3$	$^2/_3$	100	50
159/–/–/–	Chiwo	11°21′/63°5′	$^1/_3 \times ^1/_{10}$	$^1/_{50}$	20	0
160/–/–/–	Angoleta	11°22′/63°5′	$^1/_{10} \times ^1/_{40}$	$^1/_{1000}$	10	0
161–163/31–34/–/–	Tamarindo	11°22′–11°24′/63°5′–63°7′	5×1	3	150	5
164–165/–/–/–	El Conejo *Los Frailes*	11°24′/63°5′	$1^1/_4 \times ^1/_2$	$^1/_2$	80	0
166–167/–/1214/–	Puerto Real	11°11′–11°12′/63°44′–63°45′	$2^1/_2 \times ^1/_2$	$^3/_4$	100	0
168/–/1215/–	La Pecha	11°12′/63°45′	$1^1/_4 \times ^2/_5$	$^1/_4$	60	0

Station land / fresh and brackish water / marine / salt pond	*Island* or territory	*Geographic situation*	*Length* × *width* in km	*Area* in sq. km	*Highest point* in m	*Inhabitants*
		(approximate		values !		)
	Los Hermanos					
169/–/–/–	El Fondeadero	11°44′/64°25′	1 × 3/4	1/2	80	0
170/–/–/–	Morro Pando	11°48′/64°26′	1 1/3 × 1	1	200	0
171–172/35–38/1213/–	*Blanquilla*	11°49′–11°55′/ 64°35′–64°39′	12 × 10	50	60	10
173/–/1211/–	*Tortuga*	10°54′–11°0′/ 65°12′–65°24′	23 × 10	140	30	10
–/–/1212/–	*Centinela*	10°48′–66°6′	1/10 × 1/20	1/300	20	0
	Orchila					
174–175/39–40/–/–	Huespén	11°47′–11°49′/ 66°6′–66°13′	13 1/2 × 3	25	120	0
	Los Roques					
176/41–42/–/–	Gran Roque	11°57′–11°18′/ 66°6′–66°42′	3 1/4 × 1	1 1/4	120	300
177/–/–/–	Isla Larga	11°54′/66°44′–66°48	12 × 1/10	1/3	5	0
178/43/–/–	Cayo de Agua	11°53′/66°55′	1 × 1/3	1/4	10	0
	Las Aves					
179/–/1210/–	Ave de Barlovento	11°27′/67°25′	8 × 3/4	1	5	0
180–198, 302–317/44–60, 372–384/1053–1071/1072–1109	*Bonaire*	12°2′–12°19′/ 68°12′–68°25′	35 × 11	265	245	5000
199, 318–320/61–63, 385–386/1049/1050–1052	Klein Bonaire	12°9′–12°10′/ 68°18′–68°20′	4 × 2 1/2	7	6	0
200, 321–322/64, 387/1046/1047–1048	*Klein Curaçao*	11°59′–12°0′/ 68°39′	2 1/2 × 3/4	1 1/2	3	3
201–245, 323–358/65–90, 388–399/1016–1039/1040–1045	*Curaçao*	12°2′–12°23′/ 68°44–69°10′	59 × 11	425	370	60000 (1937) 90000 (1949)
246–277, 359–362/91–104, 400–405/1001–1004, 1008–1011/1012–1015	*Aruba*	12°24′–12°37′/ 69°52′–70°4′	30 × 8	175	190	25000 (1937) 55000 (1949)
278, 363–364/–/1005–1007/–	Boekoeti	12°30′/70°2′	2/3 × 1/20	1/50	2	0

Station land / fresh and brackish water / marine / salt pond	*Island* or territory	*Geographic situation*	*Length* × *width* in km	*Area* in sq. km	*Highest point* in m	*Inhabitants*
		(approximate		values !		)
	(Windward Group)					
410–412/–/1114–1115/–	*Islote Aves*	15°42′/63°38′	$1 \times {}^{2}/_{5}$	$^{1}/_{4}$	5	0
413–416/500–502/–/–	*Nevis*	17°5′–17°13′/62°32′–62°37′	14 × 11	110	1100	15000
296, 417–422/503/–/–	*St. Kitts*	17°13′–17°26′/62°36′–62°52′	34 × 10	200	1200	30000
297, 423–433/504–515/1116–1119/–	*St. Eustatius*	17°28′–17°32′/62°56′–63°0′	$8 \times 3^{3}/_{4}$	21	600	1000
298, 434–446/516–522/1120/–	*Saba*	17°37′–17°39′/63°13′–63°15′	5 × 4	12	900	1100
447–451/523–524/1121/1122–1123	*St. Barts*	17°53′–17°56′/62°48′–62°53′	10 × 5	24	300	2500
452–453/525/1124/–	Fourche	17°58′/62°55′	$1^{1}/_{2} \times 1$	$^{2}/_{3}$	100	0
290, 458–477/528–542/1125–1130, 1132/1133–1142	*St. Martin*	18°0′–18°8′/63°1′–63°10′	15 × 14	85	400	8000
478/–/1131/–	(Little Key)	18°3′/63°7′	$^{1}/_{15} \times {}^{1}/_{30}$	$^{1}/_{500}$	2	0
479–480/–/–/–	(Great Key)	18°3′/63°7′	$^{1}/_{3} \times {}^{1}/_{6}$	$^{1}/_{20}$	2	0
457/–/–/–	Pelican Key	18°1′/63°2′	$^{1}/_{4} \times {}^{1}/_{6}$	$^{1}/_{40}$	25	C
456/527/–/–	Molly Beday	18°1′/63°1′	$^{1}/_{6} \times {}^{1}/_{10}$	$^{1}/_{100}$	25	0
454–455/526/–/–	Tintamarre	18°7′–18°8′/62°59′–63°0′	3 × 1	$1^{1}/_{3}$	30	50
481–485/543–545/1142/1143–1146	*Anguilla*	18°10′–18°17′/62°59′–63°11′	$26 \times 5^{1}/_{2}$	88	65	5000
486/–/–/–	Prickly Pear	18°16′/63°11′	$^{4}/_{5} \times {}^{1}/_{3}$	$^{1}/_{5}$	10	0
487–489/546/–/–	Dog Island	18°17′/63°15′–63°17′	$3 \times 1^{1}/_{2}$	2	25	0
300/–/–/–	*St. Thomas*	—	—	—	—	—
	(Greater Antilles)					
–/–/1148/–	*Jamaica*	—	—	—	—	—
	(Bahamas)					
491–494/547–548/1149/–	*New Providence*	25°0′–25°5′/77°15′–77°35′	33 × 11	150	?50	32000
	Bimini Group					
495–496/–/1151–1154/–	North Bimini	25°43′–25°47′/79°16′–79°19′	$10 \times {}^{1}/_{2}$	2	8	700
497–498/549/1150/–	South Bimini	25°41′–25°43′/79°15′–79°19′	$6 \times 2^{1}/_{2}$	5	3	10
499/–/–/–	Cat Cay	25°3′/79°1′	$4? \times {}^{1}/_{2}?$	1?	5	100?

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LAND HABITATS

Some general information on climate and vegetation is given by BEARD 1946, 1949, BOLDINGH 1909, 1914, BRAAK 1935, BUDOWSKI 1949, CATER 1944, JOHNSTON 1909, MARCUZZI 1950, 1951, *Overzicht* ... 1948, PITTIER 1926, 1936, QUESTEL 1941, *Studies 1*, WAGENAAR HUMMELINCK 1952, and *Zool. Ergebn.* 1936.

Some data on the fauna of these land habitats are to be found in *Studies 1, 2, 3, Zool. Ergebn.* 1936 and SCHUURMANS STEKHOVEN 1941.

SYNOPSIS

The classification presented here is a of rather conjectural nature. It is based on climatological factors. Emphasis is laid on the "dry season" by which we mean that every month with an average rainfall below 100 mm will be taken as part of such a dry season. However, only a few rainfall observations being available, this scale had to be greatly arbitrary:

As a rule *no dry season — regular rainfall,* often *over 1800 mm* a year and/or a high relative humidity. (Vegetation: rain forest, forêt hygrophyle.)

Usually a *weak dry season* (1–5 months) — *rather regular rainfall,* usually *1300–2100 mm* a year. (Vegetation: evergreen seasonal forest, forêt mesophyle.)

Usually a *marked dry season* (2–8 months) — *irregular rainfall,* usually *800–1600 mm* a year. (Vegetation: dry forest or deciduous seasonal forest or bushland, forêt xérophyle.)

Often a prolonged dry season (5–11 months) — *rather erratic rainfall,* usually *600–1100 mm* a year. (Vegetation: dry forest of island type, forêt xérophyle, espinares or cardonales.)

Usually a *prolonged dry season* or dry period (8 months or more) — *erratic rainfall,* usually *200–900 mm* a year. (Vegetation: semi-desert like vegetation with cactus bush and thorn forest, espinares or cardonales.)

Concerning the climate of Leeward Group and adjacent mainland coast see *Studies 1* p. 5–9.

Airtemperature in centigrades at Willemstad, Curaçao, mean 27 (Sept. $28^1/_2$, max. $31^1/_2$; Jan.–Febr. $25^3/_4$, min. 23); at Philipsburg, St. Martin, mean $26^1/_2$ (Aug. 28, max. $30^1/_2$; Jan.–Febr. $24^3/_4$, min. $22^3/_4$). Mean *windvelocity* at Willemstad almost 5 m.p.s.; at Oranjestad, Statia, possibly $4^1/_2$ m.p.s.; at Philipsburg $3^1/_2$ m.p.s. *Winddirection* in Curaçao and neighbouring islands predominantly E, in the Windward Group NE – E. Mean relative *humidity* at Willemstad 73% (March 71%, Nov. 76%); at Philipsburg 71% (March–Apr. 68%, Sept.–Oct. 74%).

Station numbers from
Leeward Group: 121, 122, ... 302, 303, ... etc.
Windward Group: *296, 297, ... 410, 411,* .... etc.
S. American mainland, Trinidad and islands less than 5 km off: (121), (122), ... (279), (280), ... (301), (365), ... etc.
Bahamas: *(491), (492), (493), (494),* .... etc.

STRONGLY INFLUENCED BY SALT WATER

(USUALLY MOISTENED BY SALT WATER)

sea shore
- decay of mangroves 177, 180, 180A, 308, 326, 361, 363, *476*
- decay of algae or sea grass . . 302, 311, 321, 364, *410*, *413*, *418*, *433*, *453A*, *462*, *480*, *481*, (*495*)
- little plant decay 322A, *450*, *477*, (*497*)

shore of salt pond
- much decay 307, 315, *464*
- little decay 303, *463*, *487*

(NOT USUALLY MOISTENED BY SALT WATER)

marked dry season — irregular rainfall, 800–1600 mm
- rocky *434*, *456*, *457*
- sandy *432*, *471*
- muddy 459

often a prolonged dry season — rather erratic rainfall, 600–1200 mm
- sandy *411*, *412*, *453*, *454*

prolonged dry season — erratic rainfall, 200–900 mm
- rocky 156, 200, 200A, 247A, 253A, 322
- sandy 177, 179, 179A, 247, 278, 278A, (285), (287), 310, 318
- muddy 304, 320, 360

NOT STRONGLY INFLUENCED BY SALT WATER

(USUALLY MOISTENED BY FRESH OR BRACKISH WATER)

(seriously affected by recent cultivation)
- calcareous 193

(not seriously affected by recent cultivation)
- calcareous 192
- non-calcareous 150, 161, 236, *416*

(NOT USUALLY MOISTENED BY FRESH OR BRACKISH WATER)

NO DRY SEASON — REGULAR RAINFALL, OVER 1800 MM

not in deep cave

well protected from trade-wind

(seriously affected by recent cultivation)
- non-calcareous *439*, *439A*

(not seriously affected by recent cultivation)
- non-calcareous *439B*, *440*

fairly well protected from trade-wind

(not seriously affected by recent cultivation)
- non-calcareous . . . . . (369), (370)

WEAK DRY SEASON — RATHER REGULAR RAINFALL, 1300–2100 MM

in deep cave
(*not always high relative humidity*)
non-calcareous *445*

not in deep cave
well protected from trade-wind
(not seriously affected by recent cultivation)
calcareous *466*
non-calcareous 143, 144, *420*, *427*, *428*, *437*, *438*
fairly well protected from trade-wind
(not seriously affected by recent cultivation)
non-calcareous 149, *429*, *430*
rather exposed to trade-wind
(seriously affected by recent cultivation)
non-calcareous *431*, *431A*
(not seriously affected by recent cultivation)
calcareous . . . . . (368)
non-calcareous *421*
fully exposed to trade-wind
(seriously affected by recent cultivation)
calcareous . . . . . (367)
(not seriously affected by recent cultivation)
non-calcareous *444*

MARKED DRY SEASON — IRREGULAR RAINFALL, 800–1600 MM

in deep cave
(*always high relative humidity*)
calcareous 142, *474*, (*494*)
non-calcareous *436*
(*not always high relative humidity*
calcareous 141
non-calcareous *446*
not in deep cave
well protected from trade-wind
(seriously affected by recent cultivation)
non-calcareous 147, (295A), (366), *414*
(not seriously affected by recent cultivation)
calcareous *299A*, *299B*, *473*, (*493*)
non-calcareous *298*, *298A*, *423*
fairly well protected from trade-wind
(seriously affected by recent cultivation)
calcareous *422*
non-calcareous *298B*, *300*, (365), *419*, *449*, *468*
(not seriously affected by recent cultivation)
calcareous *299*, *424*, *425*, *460*, *461*, *465*
non-calcareous 163, 163A, 163B, 234, 234A, 235A, (295), *417A*, *426*, *441*, *469*, *469A*

rather exposed to trade-wind
(seriously affected by recent cultivation)
calcareous . . . . . (*496*)
non-calcareous 148, *296*, *297*, *442*, *467*, *467A*, (*491*), (*498*)
(not seriously affected by recent cultivation)
calcareous *458*, *470*, *472*, (*492*)
non-calcareous *435*, *443*, *447*, *451*, *452*
fully exposed to trade-wind
(seriously affected by recent cultivation)
calcareous . . . . . (*499*)
non-calcareous *448*
(not seriously affected by recent cultivation)
calcareous 141A
non-calcareous 145, 146, *417*, *448A*

OFTEN A PROLONGED DRY SEASON — RATHER ERRATIC RAINFALL, 600–1100 MM

not in deep cave
well protected from trade-wind
(not seriously affected by recent cultivation)
calcareous . . . . . (123), (124), 140
non-calcareous 165, 235, 235B
fairly well protected from trade-wind
(seriously affected by recent cultivation)
non-calcareous 157, 162
(not seriously affected by recent cultivation)
calcareous . . . . . (125), (125A), *482*, *483*, *485*, *488*
non-calcareous 243A
rather exposed to trade-wind
(not seriously affected by recent cultivation)
calcareous *455*, *475*, *475A*, *484*
non-calcareous 158, 160, 349A, *415*
fully exposed to trade-wind
(not seriously affected by recent cultivation)
calcareous *486*, *489*
non-calcareous . . . . . (126), 159, 164, 270, (284), 349, *478*, *479*

PROLONGED DRY SEASON — ERRATIC RAINFALL, 200–900 MM

in deep cave
(*always high relative humidity*)
calcareous 183, 183A, 189, 219A, 251, 251A, 340, 342, 348, 348A
(*not always high relative humidity*)
calcareous 188, 209, 218, 219, 250, 314, 347, 348B

DESCRIPTION

(Land habitats)

A capital letter behind the station number indicates a different habitat or, more rarely, a comparable habitat in another locality nearby; an ordinary letter denotes that the same habitat has already been studied before. — Netherlands Government maps are used for the altitudes in Curaçao, Aruba, Bonaire, St. Maarten and St. Eustatius; other values are estimated and, therefore, as a rule, must be considered inexact. — Material sampled with Reitter's beetle-sieve is indicated by an exclamation-mark.

Description of Sta. 121–300 in *Studies 2*, p. 22–42.

It may be useful to explain a few common terms which often have — in the *papiamento*, used on Curaçao, Aruba and Bonaire — a special local significance: *Boca* (spanish: boca, mouth) = bay; *cueba* (sp.: cueva) = cave; *hofje* = cultivated area, usually small and irrigated; *salinja* (sp.: saliña) = salt pond, salt lake, or salty mud flat; *rooi* (sp.: arroyo) = gully (gut, on Windward Group), usually dry river bed.

Station number. Locality, date (day. month. year).
Altitude in m; soil; vegetation; special habitat.

NE Venezuelan Continent

301 Quebrada Los ANGELITOS, W of La Guaira, 10.8.1948.
150; schists; shrubs, chiefly *Croton*; under debris and between plant decay on weathered soil.

301A Quebrada Los ANGELITOS, W of La Guaira, 10.8.1948.
190; schists; scattered small shrubs, chiefly *Croton*; between some plant debris on exposed and eroded soil.

121A CABO BLANCO, W of La Guaira, 10.8.1948.
10; quartz sand and debris; growth of *Lemaireocereus* and *Tri bulus*, few *Caesalpinia*; between *T. terrester*, under trunks of *L. griseus*, on *C. coriaria*.

Bonaire

302 CAY, entrance of Lac, 17.9.1948.
$^1/_4$; coral debris; none; between and below decay! of *Sargassum* and *Turbinaria*.

180a CAY, entrance of Lac. 1.9.1948.
$^1/_4$; coral sand; mangroves and beach vegetation; in thin layer of leaves of *Avicennia*, rather often overflowed by sea water, moistened by rain.

180A CAY, 25.2.1949.
$^1/_{10}$; mud; mangroves and beach vegetation; wet mud with some coral debris and thin layer of leaves from *Rhizophora*, overflowed by sea water at high tide.

Station number. Locality, date.
Altitude in m; soil; vegetation; special habitat.

303 Abandoned salt pan near CAY, 25.2.1949.
1/4; sandy mud; none; under pieces of coral rock and along old water mark of salt pond, with dead fishes and crabs.

182a North-west of Lansberg Putten, ZUIDPUNT, 21.9.1948.
1/4; sinter deposits on soft clay; none; under tufa crusts on and in whitish clay.

304 Sabana E of PUNT VIERKANT, S of Kralendijk, 5.9.1948.
1; limestone with dried mud; some widely scattered shrubs and weeds with *Conocarpus*; in thin layer of dry leaf decay! of *C. erecta* and under stones.

305 Northwestern LIMA, 5.9.1948.
2; coral limestone; scattered shrubs and small trees, mainly *Croton, Coccoloba, Haematoxylon* and *Hippomane*; between leaf decay! of *Co. diversifolia* and *H. Mancinella.*

185Aa Near Pos Baca, S of KRALENDIJK, 20.9.1948.
1 1/2; coral limestone; scattered shrubs, mainly cacti.

306 Sea shore S of KRALENDIJK, bath, 24.3.1949.
1 1/2; limestone with coral sand and debris; scanty beach vegetation; on *Malvaceae.* (A. C. J. BURGERS coll.)

307 Salt pond near shore at PALOE LECHI, N of Kralendijk, 24.2.1949.
0; coral debris and mud; none; between and under stones with decay of algae and *Ephydra* pupae, 1/4 m above level of salt pond.

186A North of KRALENDIJK, 20.9.1948.
1; limestone; scattered shrubs with cacti.

308 Southern shore of LAGOEN, 14.9.1948.
1/2; sandstone and tuffoid rocks, sand; none, near mangroves; below flotsam, in sand and between leaves! of *Rhizophora.*

309 Near northern shore of LAGOEN, 14.9.1948.
15; porphyritic rock; few low shrubs; between a little plant debris.

190a Escarpment near FONTEIN, 11.9.1948.
60; coral limestone; scattered small trees and shrubs; under debris and in some leaf decay!

190B South of FONTEIN, near escarpment, 11.9.1948.
80; coral limestone; shrubs and small trees; in fissures with leaf decay!

193A Hofje of FONTEIN, 11.9.1948.
23; weathered soil with coral rock; fruit plantation; under leaves and plant decay!, between stones.

193B Hofje of FONTEIN, 28.3.1949.
25; weathered soil; fruit plantation; on *Achras sapota.* (A. C. J BURGERS coll.)

194A Rooi ONIMA, 19.9.1948.
2; porphyrite detritus; bush of *Conocarpus*; leaf decay! of *C. erecta.*

310 Boca Onima, 19.9.1948.
1; sand, few pieces of coral rock; bush of *Hippomane*; between leaf decay! of *H. Mancinella* on pure sand.

311 Boca Onima, 19.9.1948.
$^1/_4$; sand and coral rock; none; between *Sargassum*! cast ashore.

312 E of Onima, 19.9.1948.
20; coral limestone; scattered shrubs, *Croton* and cacti; under stones and in fissures, with some plant decay.

313 Near Pos Dominica, S of Rincón, 15.9.1948.
70; limestone debris on diabase and other rocks; scattered shrubs.

314 Oeroesjan Blanco, cave in sink hole, Colombia, 3.9.1948.
2; limestone; none (dark); bat manure.

315 Southwestern shore of Goto, 22.2.1949.
$-^1/_4$?; coral rock and debris; none; under and between rocks, with decay of chiefly *Ephydra* pupae along water mark of salt lake.

316 Sea shore near Wecua, S of Slagbaai, 23.2.1949.
6; diabase; scattered shrubs; under stones and between very little plant decay.

317 North of Boca Slagbaai, 12.9.1948.
4; coral limestone; scattered shrubs, chiefly *Croton*; under stones and between some plant decay!

Klein Bonaire

199c Near house in ruins, southeastern Klein Bonaire, 7.9.1948.
3; coral limestone; scattered shrubs; under stones and in fissures with plant-decay.

318 Eastern Klein Bonaire, 27.3.1949.
1; coral limestone with debris; beach vegetation, chiefly *Bontia*; on *B. daphnoides*. (A. C. J. Burgers coll.)

319 Southeastern Klein Bonaire, 1.9.1949.
3; coral limestone; scattered shrubs and small trees; under stones and in fissures with some leaf decay!

320 Northern shore of Salinja in S. Klein Bonaire, 7.9.1948.
0; whitish, clayish soil with tufa crusts; growth of *Sporobolus*, few shrubs of *Bontia*; between some leaf decay of *B. daphnoides*!, under pieces of limestone.

Klein Curaçao

321 Eastern shore of Klein Curaçao, 1.10.1948.
$^1/_2$; coral debris and sand on limestone; none; flotsam with decaying algae! on debris.

322 South of lighthouse, 1.10.1948.
$1^1/_2$; limestone with some debris; very scanty beach vegetation; under stones.

322A South of lighthouse, 1.10.1948.
$^1/_2$; limestone with some debris; very scanty beach vegetation; under debris on damp, clayish soil.

Station number. Locality, date.
Altitude in m; soil; vegetation; special habitat.

Curaçao

323 Hofje GROOT ST. JORIS, 9.4.1949.
5; weathered soil, diabase detritus; fruit plantation; between leaf decay! under *Achras sapota* infected by *Anastrepha.*

323A Hofje GROOT ST. JORIS, 9.4.1949.
5; weathered soil, diabase detritus; fruit plantation; on and under young banana plants.

323B Hofje GROOT St. JORIS, 9.4.1949.
5; weathered soil, diabase detritus; fruit plantation; under *Citrus* trees with some dry plant decay!

323Ba Hofje GROOT ST. JORIS, 3.1.1949.
5; weathered soil, diabase detritus; fruit plantation; *Citrus* trees. (A. C. J. BURGERS coll.)

323Bb Hofje GROOT ST. JORIS, 18.1.1949.
5; weathered soil, diabase detritus; fruit plantation; under *Citrus* trees. (A. C. J. BURGERS coll.)

324 Hofje GROOT ST. JORIS, 18.1.1949.
5; weathereed soil, diabase detritus; fruit plantation; on and between weeds. (A. C. J. BURGERS coll.)

325 GROOT ST. JORIS, 3.1.1949.
5–10; weathered diabase; cultivated field with *Citrullus;* on and between *C. vulgaris.* (A. C. J. BURGERS coll.)

325A GROOT ST. JORIS, 3.1.1949.
5; diabase detritus; *Cocos*-grove; on coarse grasses. (A. C. J. BURGERS coll.)

325Aa GROOT ST. JORIS, 18.1.1949.
The same.

325Ab GROOT ST. JORIS, 9.4.1949.
The same.

326 GROOT ST. JORIS, 9.4.1949.
$^1/_4$; diabase, sand; *Rhizophora*; between and under decay of *Thalassia* and algae, in muddy sand.

205a ROOI MANZALIENJA, N of Tafelberg, S. Barbara, 13.4.1949.
3; diabase detritus; grove of *Hippomane* trees; in layer of leaves and other decay! of *H. Mancinella,* few pieces of limestone.

327 Southern Hofje SANTA BARBARA, 14.8.1948.
2; chiefly diabase detritus, several pieces of coral rock; *Cocos* and a few other trees; leaf decay, on muddy soil.

327A Landhuis SANTA BARBARA, 10.4.1948.
20; diabase rock, and limestone; several plants; under flower pots.

328 Northern escarpment of TAFELBERG, S. BARBARA, 10.4.1949.
140; coral limestone on diabase; scattered shrubs and small trees; under and between coarse debris with some plant decay!

329 Southeastern part of TAFELBERG, near escarpment, 29.10.1948.
160; coral limestone; scattered shrubs and small trees; under and between coarse debris, in fissures.

329A South of Tafelberg near NEWPORT, 29.10.1948.
20; coral limestone; shrubs.

330 Southern slope of TAFELBERG, near Rooi Loki-loki, 8.12.1948.
90; limestone with phosphate pockets; scattered shrubs and small trees; under stones and debris with some plant decay.

331 AGRICULTURAL EXPERIMENT STATION, Cas Corá, 11.12.1948.
10; cultivated soil, diabase detritus; gardens; under building material, flower pots and debris on damp soil.

331A AGRICULTURAL EXPERIMENT STATION, 14.1.1949.
10; diabase detritus; scanty or none; in or near stables, on dung. (A. C. J. BURGERS coll.)

331B AGRICULTURAL EXPERIMENT STATION, 20.1.1949.
10; diabase detritus; garden; on *Hibiscus tiliaceaus*. (A. C. J BURGERS coll.)

332 CAS CORÁ, 20.11.1949.
10; weathered diabase; garden; (attracted by light in evening). (B. A. BITTER coll.)

333 MUSEUM, Mundo Nobo, Willemstad, 22.3.1949.
7; limestone with detritus; garden; in building.

333A MUSEUM, 25.4.1949.
7; limestone with detritus; garden; in and around the garden.

334 Klein Hofje of GROOT PISCADERA, 27.1.1949. (Plate I*a*)
3; diabase detritus; *Cocos*-grove with few *Citrus* and *Mangifera*, grasses and weeds; on and in decaying palm tree, between other plant decay! on clayish soil, on grasses.

334a Klein Hofje of GROOT PISCADERA, 10.1.1949.
3; diabase detritus; *Cocos* grove as before; on grasses and weeds. (A. C. J. BURGERS coll.)

335 GROOT PISCADERA, 27.1.1949.
12; diabase; scattered shrubs and few trees; on and in decaying *Swietenia Mahagoni*!

336 GROOT PISCADERA, 19.3.1949.
9; weathered diabase; fruit plantation; near poultry house. (A. C. J. BURGERS coll.)

337 Hofje GROOT PISCADERA, 27.1.1949.
8; diabase detritus; fruit plantation with *Mangifera*, *Cocos*, *Phoenix* and other trees; in some leaf decay! chiefly of *M. indica*, on damp soil.

337A Hofje GROOT PISCADERA, 28.12.1948.
8; diabase detritus; fruit plantation; on weeds along path, with *Citrus* and *Achras* trees. (A. C. J. BURGERS coll.)

337Aa Hofje GROOT PISCADERA, 27.1.1948.
The same.

Station number. Locality, date.
Altitude in m; soil; vegetation; special habitat.

338 Hofje GROOT PISCADERA, 28.12.1948.
7; diabase detritus; garden with vegetables; on parsley and salad. (A. C. J. BURGERS coll.)

339 Hofje GROOT PISCADERA, 28.12.1948.
7; diabase detritus; maize and vegetables; on weeds. (A. C. J. BURGERS coll.)

339a Hofje GROOT PISCADERA, 27.1.1949.
The same.

339A Hofje GROOT PISCADERA, 27.1.1949.
7; diabase detritus; shrubs near maize field, young *Cocos* palms; at the leaf bases of *Cocos*, after rain.

340 CUEBA DI RATÓN, Hato, 26.9.1948.
20; coral limestone with residual soil, manure; none (dark); maternity room of *Mormoops*, 100 m from cave entrance, in bat manure.

340a CUEBA DI RATÓN, 20.10.1948.
The same.

340b CUEBA DI RATÓN, 1.12.1948.
20; coral limestone, manure; some *fungi imperfecti* (dark); as before.

341 Near oil tanks of BULLEN BAAI, 22.10.1948.
12; coral limestone; shrubs and small trees, chiefly *Croton* and *Opuntia*; on and below limestone.

342 CUEBA DI CHICHI at Bullen Baai, 22.10.1948.
5; limestone; none (dark); a little bat manure, about 100 m from cave entrance.

343 Southwest of police station KLEINE BERG, 24.8.1948.
85; coral limestone; shrubs and small trees; chiefly *Croton*, *Coccoloba* and *Acacia*; on and below rocks, between leaf decay! of *Co. diversifolia*.

344 Baranca MARTHA KOOSJE, 24.8.1948.
85; coral limestone; shrubs and small trees, chiefly *Acacia*, *Croton* and *Agave*; on and below rocks, in decay! of *Agave*.

345 Near Tanki MARTHA KOOSJE, 24.8.1948.
65; desintegrated sandy shales; some weeds and grasses; below pieces of limestone on wet, clayish soil.

222a Western part of KOENOEKOE ABAU, 20.8.1948.
70; desintegrated sandy shales; some shrubs and small trees, chiefly *Opuntia*, *Lemaireocereus*, *Croton*, *Caesalpinia* and *Acacia*; on and between cacti!, on *Ca. coriaria*.

346 Near Pos EUROPA, Dokterstuin, 12.2.1949.
20; diabase, weathered soil; considerable growth of shrubs and small trees nearby; on *Solanaceae* near pool. (A. C. J. BURGERS coll.)

347 Cave next to the CUEBA BOSÁ near N. escarpment of the Seroe di Cueba, St. Hyronimus, 7.3.1949.
30; limestone, cave deposits; none (practically dark); on and under rocks, on and between dry, pulverized goat feces and bat manure (10 m from nearest cave entrance).

348 CUEBA BOSÁ, N. escarpment of the Seroe di Cueba, boundary of Savonet and St. Hyronimus, 7.3.1949.
30; limestone, cave deposits; none (dark); maternity room of *Mormoops* (15 m from nearest cave entrance), in bat manure.

348a CUEBA BOSÁ, 17.3.1949.
30; limestone, cave deposits; none (dark); maternity room of *Mormoops* (15 m from cave entrance), in bat manure.

348A CUEBA BOSÁ, Kamber Blanco, 17.3.1949.
30; limestone, cave deposits; none (dark); below stones on moistened clayish soil (40 m from nearest cave entrance), with traces of bat manure.

348B CUEBA BOSÁ, 17.3.1949.
30; limestone, phosphate, cave deposits; none (practically dark); on and under rocks, in decaying goat (25 m from cave entrance).

234a Top of the SEROE CHRISTOFFEL, 24.10.1948.
365; cherts; shrubs and trees; between dry leaf decay! in fissures.

234b Top of the SEROE CHRISTOFFEL, 23.12.1948.
365; cherts; trees and shrubs; between moistened leaf decay! of *Clusia rosea*.

234c Top of the SEROE CHRISTOFFEL, 11.2.1949.
350; cherts; shrubs and trees; between leaf decay! of *Clusia rosea*.

234A Top of the SEROE CHRISTOFFEL, 11.2.1949.
370; cherts; scattered shrubs and small plants; between leaf decay of *Coccoloba diversifolia* in fissures of much exposed, highest top.

235A Northwestern slope of the SEROE CHRISTOFFEL, 23.12.1948.
300; cherts; considerable growth of shrubs and small trees; between leaf decay! and mosses on rocks and trees.

235Aa Northwestern slope of the SEROE CHRISTOFFEL, Febr. 1946.
300?; cherts; growth of shrubs and small trees; between debris and leaf decay. (fr. M. ARNOLDO BROEDERS coll.)

235B Northwestern slope of the SEROE CHRISTOFFEL, 23.12.1948.
250; cherts; scattered shrubs and small trees with considerable growth of *Bromelia*; on and between living and decaying *B. lasiantha*!

349 Northern slope of the SEROE GRACIA, Knip, 17.8.1948.
230; cherts; shrubs and some small trees; leaf decay! of *Coccoloba diversifolia*.

349A Southwestern slope of the SEROE BATATA, Knip, 23.12.1948.
230; cherts; scattered shrubs and some small trees; under rocks.

350 ROOI CAJOEDA, near well, Knip, 17.8.1948.
65; cherts, rock debris; considerable growth of shrubs and small trees; leaf decay! of *Crataeva gynandra* and *Anona palustris*.

Station number. Locality, date.
Altitude in m; soil; vegetation; special habitat.

351 Rooi Beroe, near Pos Sjimarrón, Savonet, 23.12.1948.
50; cherts, rock debris; growth of shrubs and small trees; between plant decay! and mosses on rocks.

352 Southern escarpment of Plaja Djerimi, Knip, 11.12.1948.
10; coral limestone; cacti and thorny shrubs; on and below rocks with some plant decay.

353 Top of the Seroe Baha So, Spaansche Put, 16.2.1949.
115; limestone; scattered shrubs and small trees; under rocks, with goat feces! on clayish soil.

354 Ruins near Seroe Baha So, Spaansche Put, 16.2.1949.
70; cherts with limestone debris; shrubs with much *Opuntia*; below rocks and dead wood with plant decay!

355 Hofje Spaansche Put, 16.2.1949.
7; detritus of cherts, diabase and limestone; grasses with scattered trees; under debris.

356 Hofje Groot St. Martha, 4.12.1948.
3; detritus of diabase and cherts; fruit plantation; between leaf decay! of *Mangifera indica* on clayish soil, below decay of *Phoenix dactylifera* and *Albizzia lebbeck*.

357 Patatentuin Rooi Magdalena, 5.1.1949.
35; diabase, weathered soil; semi-cultivated area; on weeds. (A. C. J. Burgers coll.)

357A Patatentuin, 5.1.1949.
35; diabase, weathered soil; cultivated area; in *Citrus* grove. (A. C. J. Burgers coll.)

358 Pig farm of San Juan, 18.12.1948.
25; diabase, weathered soil; few grasses and weeds; below pieces of limestone on moistened earth.

Aruba

246a Near Bron di Rooi Prins, 26.8.1949.
20; chiefly schists; some shrubs and small trees; leaf decay! of *Bontia daphnoides*.

247B Western part of the dunes of Boca Prins, 26.8.1949.
15; coral sand; scattered bushes of *Tournefortia* and a few trees of *Coccoloba*; leaf decay of *C. uvifera* on pure sand, wet by rain.

359 Hofje Fontein, 30.12.1948.
10; weathered soil, chiefly from limestone; fruit plantation, chiefly bananas; between a heap of leaf decay!

251a Kamber di Leeuw, Grot van Quadirikiri, 30.12.1948.
25; coral limestone, cave deposits; scattered *fungus imperfectus* (dark); between some bat manure.

251b Kamber di Leeuw, GROT VAN QUADIRIKIRI, 16.1.1949.
The same.

251c Kamber di Leeuw, GROT VAN QUADIRIKIRI, 18.5.1949.
Probably the same. (A. D. RINGMA coll.)

360 Abandoned SALTPAN SE of Pos Grandi, NEAR SAVANETA, 2.1.1949.
0–$^1/_2$; sandy mud; poor beach vegetation; under pieces of coral, wood and decaying *Ruppia*, in sandy mud.

361 Northwestern shore of SPAANS LAGOEN, 1.1.1949.
$^1/_{10}$; limestone on diabase, mud; mangroves, few shrubs; between leaf decay! of *Rhizophora* and under rocks on wet mud.

362 SABANA BLANCOE, W. of the Seroe Bientoe, 31.12.1948.
14; limestone debris, weathered soil; *Aloe* field with some *Jatropha gossypifolia* and *J. urens*, few scattered *Caesalpinia* and *Acacia*; on and under debris! of limestone and tufa crusts of weathered soil.

262B West of SPAANS LAGOEN, 1.1.1949.
15; coral limestone; scattered shrubs and small *Coccoloba diversifolia* in neglected *Aloe* field with much *Jatropha* and *Opuntia*; between some leaf decay!

278A BOEKOETI (Bucuti), island, S of Oranjestad, 17.1.1949.
1–1$^1/_2$; coral shingle and sand; beach vegetation with *Conocarpus*; dry and moistened leaf decay! of *C. erecta*.

363 BOEKOETI, 17.1.1949.
$^1/_{10}$; coral shingle and sand; mangroves with beach vegetation; between wet leaf decay! of *Rhizophora* on sand and on oil residue.

364 BOEKOETI, 17.1.1949.
$^1/_{10}$; sand and coral debris; beach vegetation with mangroves; between decay! of *Thalassia* and algae from the lagoon on sandy debris.

Trinidad

365 Near Imperial College of Tropical Agriculture, ST. AUGUSTINE, 8.8.1948.
20?; weathered soil; chiefly trees; in leaf decay! of *Mangifera* with vegetable mould.

366 Near I.C.T.A., ST. AUGUSTINE, 8.8.1948.
20?; weathered soil; cocoa trees with leguminosae; in layer of decaying cocoa leaves!

367 Waterfront of PORT-OF-SPAIN, 8.8.1948.
1; rock debris, sand; some shrubs and weeds, mangroves nearby; under paper waste, card board, decaying canvas, wood and coral debris! after rain.

Suriname (Dutch Guiana)

368 Krepí, near CHARLESBURG, N of Paramaribo, 2.8.1948.
1; sandy soil with shells, clay; grasses, shrubs and small trees; on stem of dead *Astrocaryum*.

Station number. Locality, date.
Altitude in m; soil; vegetation, special habitat.

369 ZANDERIJ, about 40 km S of Paramaribo, 3.8.1948.
10?; quartz sand; grassy savannah with few scattered shrubs; in thin layer of leaf decay! from *Aulomyrcia Hostmanniana* on pure sand.

370 ZANDERIJ, about 42 km S of Paramaribo, 3.8.1948.
15?; quartz sand; grassy savannah with few palm trees (near abandoned indian huts); between some leaf decay of *Maximiliana maripa* on pure sand.

Islote Aves (Bird Island)

410 Eastern shore of ISLOTE AVES, 12.5.1949.
$^1/_2$; coral sand and sandstone; none; between and below decay! of rather dry *Sargassum* cast ashore.

411 Southern part of ISLOTE AVES, 12.5.1949.
$1^1/_2$–$2^1/_2$; coral sand; almost exclusively *Sesuvium*; between and on *S. portulacastrum*, with nests of *Sterna fuscata*, remains of turtle.

412 Central part of ISLOTE AVES, 12.5.1949.
2–$2^1/_2$; coral sand and sandstone, guano; scattered *Portulaca*; below crusts of guano and rock debris, with some decay! of *P. oleracea*, with nests of *Anoüs stolidus*.

Nevis

413 FORT CHARLES, S of Charlestown, 28.6.1949.
$^1/_2$; sandstone and coral sand; none; between and below wet algae, cast ashore.

414 West of JESSOPS VILLAGE, 28.6.1949.
$1^1/_2$; detritus of volcanic rock, clayish soil; banana grove, with some coconut trees and sugar cane; under decaying banana trees!, leaves of sugar cane and dead *Cocos* tree, on trees.

415 Near MOSQUITO BAY, 28.6.1949.
30; andesitic rock; thorny shrubs with cactuses; between and below rock debris with very little plant decay!

416 JONES RIVER, E of Newcastle, 28.6.1949.
15?; volcanic rock; grasses and trees near rivulet in sugar plantation; between wet leaf decay! and below rock debris.

Saint Christopher (St. Kitts)

417 MORNE HILLS, E of Basseterre, 29.6.1949.
40–50; andesitic rock debris; *Agave*, some *Opuntia* and scattered grasses; on rocky soil with very little plant decay.

417A MORNE HILLS, 2.7.1949.
30; andesitic rock, debris; scattered shrubs and grasses; under rock debris, between plant decay! (in small gut).

418 Waterfront of BASSETERRE, 30.6.1949.
1/2; andesitic rock with sand; none; under and between 2–20 cm thick layer of algae and debris cast ashore.

419 Near AGRICULTURAL EXPERIMENT STATION, La Guérite, 2.7.1949.
20?; weathered andesitic rock, cultivated soil; field with sugar cane and vegetables, few shrubs; under and between garbage! and cow manure.

420 WINGFIELD RIVER, 300 m N of bridge, 30.6.1949.
50?; andesitic rock; shrubs and trees, chiefly *Mangifera* and *Ficus*; between leaf decay! and under rock debris near brook.

421 Top of BRIMSTONE HILL, 30.6.1949.
250; andesitic rock, few pieces of limestone; grasses, few scattered shrubs; under debris with plant decay!

422 Northwestern foot of BRIMSTONE HILL, 30.6.1949.
60?; marly limestone; considerable growth of shrubs; between some plant decay! and garbage, under rock debris, on shrubs, wet by rain.

Sint Eustatius (Statia)

423 TOBY GUT, S. slope of Quill, 14.7.1949.
30?; andesitic tuffs; shrubs and small trees; under debris and between a little plant decay! in dry ravine.

424 Big Gut, near base of WHITE WALL, 6.7.1949.
20; debris of andesitic tuffs and limestone; growth of shrubs and small trees with *Pisonia*; under debris and between plant decay!

425 Near top of WHITE WALL, 6.7.1949.
270; limestone with gypsum; considerable growth of shrubs and low trees with *Tillandsia*, *Oncidium*; between plant decay! especially of *T. utriculata* with living, water-bearing specimens.

426 Slope of QUILL, above White Wall, 6.7.1949.
300; andesitic rock; high shrubs and some trees with *Pisonia*, in fissures with some plant decay! under debris on weathered soil, under some cow manure.

427 In QUILL, NE corner, 12.7.1949.
275; andesitic rock with weathered soil; high shrubs and large trees; in fissures with wet leaf decay! and clayish soil, in dead wood!, moss-grown trees and rocks.

428 In QUILL, E side, 12.7.1949.
290; andesitic rock with some weathered soil; high shrubs and trees; in fissures with plant decay!, in dead wood, moss-grown trees and rocks.

429 De Kant, W. rim of QUILL, 12.7.1949.
380–430; andesitic rock; high shrubs and small trees; between debris and leaf decay!, in dead wood, on trees and rocks.

Station number. Locality, date.
Altitude in m; soil; vegetation, special habitat.

430 Western slope of Quill, above GLASS BOTTLE, 12.7.1949.
280; weathered andesitic rock; high shrubs and some trees; between decaying leaves!, on moss-grown trees.

431 Western slope of Quill, above GLASS BOTTLE, 12.7.1949.
280; cultivated soil; pasture of *Panicum maximum* with a few small shrubs; between some plant decay! and in clayish soil.

431A Western slope of Quill, above GLASS BOTTLE, 12.7.1949.
As before; in remainder of decayed tree.

297a East of ORANJESTAD, 16.7.1949.
90; andesitic tuffs; grasses with *Agave* and a few small shrubs; between some plant-decay!, chiefly from *A. Karatto*.

432 Near BILLY GUT, NW of Oranjestad, 11.7.1949.
1; sand, with some clayish soil; *Hippomane* and *Coccoloba*; between leaf decay of *H. Mancinella* and *C. uvifera* on sand (15 m from water mark).

432A DOWNTOWN, 24.2.1949.
2; rock debris; shrubs and small trees; on *Coccoloba uvifera* and other plants. (A. J. C. BURGERS coll.)

433 CONCORDIA BAY, 8.7.1949.
$^1/_2$; sand; none; between and below 10–20 cm thick layer of *Halodule* and some *Sargassum*, cast ashore, on pure sand.

433A SCHILDPADDENBAAI, 21.2.1949.
$^1/_2$, sand; none; on algae, cast ashore. (A. J. C. BURGERS coll.)

S a b a

434 SPRING BAY, 28.7.1949.
1–2; debris of andesitic lavas; almost none; between and below rock with almost no flotsam.

435 SULPHUR MINES, below Behind the Ridge, near Hellsgate, 27.7.1949.
80?; andesitic rock debris; lonesome *Pisonia* tree with a few scattered shrubs in small gut; some plant decay on weathered soil!, under debris.

436 TUNNEL OF SULPHUR MINE near Hellsgate, 27.7.1949.
80?; volcanic rock rich in sulphur; almost none (dark), myxomycete only; on very little bat manure (50 m from entrance).

437 Northeastern slope of The Mountain, near HELLSGATE, 25.7.1949.
450–500?; andesitic rock debris; well-wooded, upper parts with *Selaginella* and tree ferns; with mosses on stems, rock, mould and plant decay.

438 Upper Mountain Water Hole, W of HELLSGATE, 25.7.1949.
500?; andesitic rock; well-wooded gut with *Araceae, Selaginella,* bananas and tree ferns; in and on wet mould and plant decay.

439 BEHIND THE MOUNTAIN, depression on top, 26.7.1949.
900?; andesitic rock, clayish soil; banana grove, some boulders and wet cliffs with pending mosses; etc.; on and under decaying banana leaves!, under rock fragments on clayish soil and mould.

439A BEHIND THE MOUNTAIN, 26.7.1949.
As before; on and between stems and leaves of banana trees in moist surroundings.

439B BEHIND THE MOUNTAIN, 26.7.1949.
As before; on and between mosses, *Trichomanes*, *Lycopodium* and *Selaginella*.

440 BEHIND THE MOUNTAIN, behind Western entrance, 26.7.1949.
900?; andesitic rock; tree fern bush (above 439); on and between dripping tree ferns with mould!

441 Top of KATES HILL, above Windwardside, 25.7.1949.
500; andesitic rock; some shrubs, grasses; between leaf decay!, with patches of damp mould.

442 Southern slope of BOOBY HILL, near Windwardside, 25.7.1949.
470; volcanic rock, cultivated soil; grasses, vegetables, few shrubs; under and between rocks, garbage, mould and leaf decay!

443 The Shoe at THAIS HILL, near St. Chrispin, 28.7.1949.
400; andesitic rock; chiefly ferns and *Bromeliaceae*, some small trees, and shrubs; in fissures with plant decay!

298A Small gut near ROAD TO BOTTOM, at S-curve, 19.7.1949.
200?; andesitic rock, debris; high shrubs, grasses; under and between debris with leaf decay!, on shrubs.

298B ROAD TO BOTTOM, at S-curve, 19.7.1949.
200?; (andesitic rock), roadside; few scattered herbs; below and between some debris with feces of donkeys, on dusty masonry.

444 GREAT HILL, near Chamber and Hall, 19.7.1949.
430?; andesitic rock; shrubs and large herbs, chiefly *Araceae*; plant decay and mould of *Philodendron* and *Tillandsia utriculata*.

445 CHAMBER AND HALL, cave on NE slope of Great Hill, 19.7.1949.
430?; andesitic rock, debris; almost none (rather dark); between debris with dry leaf decay!, no bat manure.

446 BAT HOLE near Land Point, 19.7.1949.
3–5; andesitic rock; none (shady); in fissures, below rock debris with bat manure, on bat manure.

Saint Barthélemy (St. Barts)

447 Water shed near road from Lorient to GRAND FOND, 3.6.1949.
200?; volcanic rock; considerable growth of shrubs and small trees crowded with *Bromeliaceae*, *Epidendrum*; dry leaf decay! of large *Bromeliaceae* and *Tillandsia usneoides*.

448 Northwest of LORIENT, 200 m from sea, 3.6.1949.
25; volcanic rock, debris; poor pasture with cattle on exposed slope; under debris and dried manure.

Station number. Locality, date.
Altitude in m; soil; vegetation; special habitat.

448A Northwest of LORIENT, 100 m from sea, 3.6.1949.
30; porfiritic rock; few scattered shrubs on steep slope; between leaf decay! in fissures.

449 Yard in GUSTAVIA, town, 5.6.1949.
10; dioritic rock, cultivated soil; below rock debris and garbage, in fissures, on small trees and rocks.

450 Utmost Eastern corner of harbour of GUSTAVIA, town, 1.6.1949.
$^1/_{10}$; dioritic rock, debris; none; between some flotsam and in sandy mud below rock debris.

451 Roadside at cape South of PUBLIC, near Gustavia, 4.6.1949.
5–10; dioritic rock and debris; some shrubs and trees, with *Hippomane* and cacti, 10 m from shore; between leaf decay of *H. Mancinella*!, on rock debris.

La Fourche (Five Island, Fourchu)

452 FOURCHE, central part near ruins, 2.6.1949. (Plate III*a*)
2–20; volcanic rock, detritus; lower part with much *Cyperus*, *Chloris*, *Sporobolus* and *Ipomoea*, higher parts with shrubs and cactuses; plant decay! and rock debris.

453 FOURCHE BAY, 2.6.1949.
1; rock debris and sand; scanty beach vegetation, chiefly *Ipomoea*; between some plant debris! and rock fragments on sand.

453A FOURCHE BAY, 2.6.1949.
As before; between some dry *Sargassum*, cast ashore.

Tintamarre (Flat Island)

454 WHITE BAY, 20.6.1949.
1; sand, limestone; beach vegetation with *Hippomane* and *Coccoloba*; in some leaf decay! of *H. Mancinella* and *C. uvifera* on rather pure sand.

455 Cliff North of WHITE BAY, 20.6.1949.
5–15; limestone; scanty shrubs with cactuses; in some plant decay! in fissures, on and under rock debris.

Saint Martin (Sint Maarten)

456 MOLLY BEDAY (Mal Aborder), island, 3.8.1949.
10–25; volcanic rock; scanty vegetation with few low shrubs, *Mollugo*, *Portulaca*, *Chloris* and *Panicum*; debris and plant decay, old bird nests.

457 PELICAN KEY (Guano Key), island, 3.8.1949.
5–25; volcanic rock; rather scanty vegetation with some low shrubs; between debris and plant decay of *Croton flavens*, old nests of *Anoüs* and *Sterna*, *Pelecanus*.

458 Western slope of POINT BLANCHE, 17.5.1949.
60; chiefly limestone; very considerable growth of shrubs and a few small trees; between some dry plant decay with rock debris!, on shrubs.

459 Near Pond of POINT BLANCHE, 17.5.1949.
$^1/_2$; sandy mud with salt, rock debris; scanty growth of *Fimbristylis* and *Sporobolus*, *Hippomane*; under some pieces of limestone in sandy mud.

460 Coast of Great Bay near POINT BLANCHE, 17.5.1949.
10; chiefly limestone, shrubs with cactuses and small trees; in dead or almost dead *Bromeliaceae*!, between some plant decay! in rock fissures.

461 OLD BATTERY, at E coast of Great Bay, 18.5.1949.
5; chiefly limestone; considerable growth of shrubs and small trees, chiefly *Hippomane*; between dry leaf decay! of *H. Mancinella*, many chickens roaming about, under rock debris.

299B Western slope of OLD BATTERY HILL (erroneously named Signal Hill in 299 and 299A), E of Great Bay, near top, 29.5.1949.
180–200; tuffaceous with limestone; considerable growth of shrubs and trees with *Plumiera alba* and *Clusea* in higher parts; between plant decay! in fissures and below rock debris, between *Mammillaria nivosa*.

462 Western shore of GREAT BAY, 24.6.1949.
$^1/_2$–1; rock debris; practically none; in and below wall of *Halodule*! up to $^1/_2$ m high, cast ashore, on gravel.

463 Eastern shore of GREAT SALTPOND, near Philipsburg, 25.5.1949.
0–$^1/_4$; sandy mud with salt, some rock debris; none, *Batis* in neighbourhood; under stones on salty mud, with some *Ephydra* pupae and other debris washed ashore.

463A Eastern shore of GREAT SALTPOND, 9.3.1949.
$^1/_2$–1; rock debris, sandy mud; scanty vegetation; on herbs. (A. J. C. BURGERS coll.)

464 Western shore of GREAT SALTPOND, near Philipsburg, 5.8.1949.
0–$^1/_4$; muddy sand with salt; none, some grassy vegetation with *Batis* in neighbourhood; in or below 5 cm thick band of *Ephydra* pupae and other debris! above waterline, on muddy sand.

465 Hilltop of EXPERIMENT, E of Great Saltpond, 25.5.1949.
45; chiefly limestone; very considerable growth of shrubs, many *Bromeliaceae*, locally with *Agave*; in plant decay!, under rock debris.

466 Head of ravine in the COLOMBIER VALLEY, 20.5.1949.
100?; diorite with limestone sinter; well wooded in moist environment (near the trail to Cul the Sac); in and under wet leaf decay of *Terminalia* and *Ficus* and mould!, in rock fissures near small water pool, on rocks and stems.

Station number. Locality, date.
Altitude in m; soil; vegetation; special habitat.

467 Agricultural Experiment Station ST. PETER, Cul de Sac, 24.5.1949.
20; rock detritus with limestone and other debris; shrubs and grasses near slob; on small wall of stones, under rock debris with plant decay!

467A Agricultural Experiment Station ST. PETER, Cul de Sac, 24.5.1949.
20; rock detritus, cultivated soil; chiefly Guinea grass; under cut down Guinea grass!

468 Agricultural Experiment Station ST. PETER, Cul de Sac, 24.5.1949.
20; rock detritus, cultivated soil; orchard, grasses; between and under rock debris on clayish soil.

469 Near CUL DE SAC BRIDGE, 24.5.1949.
15; rock detritus with some debris; grassy slope with some shrubs and small trees (near fence); between leaf decay! of *Hippomane Mancinella*, under shrubs with some debris, in clayish soil.

469A CUL DE SAC BRIDGE, 24.5.1949.
15; rock detritus with some debris; some algae and a few herbs; dry bed of brooklet with moist sand on concrete floor.

470 Roadside on COLE BAY HILL, 8.8.1949.
100; chiefly limestone, tuffaceous, considerable growth of shrubs; between some plant decay with *Tillandsia*.

471 LAY BAY, S of Simson Bay, 27.5.1949.
2; sand, limestone debris; grove of small *Hippomane* 30 m from shore; between some leaf decay! of *H. Mancinella*, on almost pure sand, on and under rock debris.

472 Western top of MESCHRINE HILL, near Simson Bay, 27.5.1949.
110; limestone; shrubs and small trees; in leaf decay! and on shrubs.

473 Western base of MESCHRINE HILL, near Simson Bay, 27.5.1949.
10; limestone; considerable growth of shrubs and small trees near shore; on and below rock debris, shrubs and plant decay!

474 DEVILS HOLE in Western base of Meschrine Hill, SE of Simson Bay bridge, 4.8.1949.
1–3; limestone, weathered soil; bat feces!, on rock.

475 LOW LANDS near Flamingo Pond, 8.6.1949. (Plate III*b*)
20?; limestone, semicultivated soil; shrubs with small trees, area partly cleared (for cultivating corn and beans); in leaf decay! and under rock debris, on shrubs.

475A LOW LANDS near Flamingo Pond, 8.6.1949.
20?; (limestone); shrubs with small trees; in decaying *Bursera*.

476 LOW LANDS, W. shore of Flamingo Pond, 8.6.1949.
0; (limestone debris); near some *Rhizophora* and *Avicennia*; in wet leaf decay! of *R.*, *A.* and *Thalassia*.

477 LOW LANDS, SW. shore of Flamingo Pond, 8.6.1949.
0–1/2; limestone debris, sand; scattered *Batis maritima*; near waterline, in sandy mud, under stones.

478 LITTLE KEY, island in Simson Bay Lagoon, 2.8.1949.
1–2; chiefly tuffoid rock, debris; few scattered shrubs and small trees of *Hippomane*; between rock debris with some plant decay!, chiefly *H. Mancinella*.

479 GREAT KEY, island in Simson Bay Lagoon, 2.8.1949.
1-3; chiefly tuffoid rock; scattered shrubs with much *Opuntia*; on shrubs and rocks.

480 GREAT KEY, 2.8.1949.
1/10; chiefly tuffoid rock, detritus; scattered *Croton, Opuntia* and *Hippomane* on land; in and below wet decay! of *Thalassia* and land plants on sand.

Anguilla

481 Near FOREST POINT, 20.6.1949.
1/4; limestone and sand; none; on and below decaying *Thalassia* with algae! cast ashore.

482 Near Saltwell of FOREST POINT, 18.6.1949.
3; limestone; bush with *Hippomane*; in leaf decay! of *H. Mancinella*, on and under rock debris.

483 Near Bedney's Spring at LONG BAY, 18.6.1949.
1; limestone; small shrubs and some *Coccoloba* and *Pisonia*; between leaf decay!, chiefly of *P. subcordata*.

484 Southern slope North of SANDY GROUND, 16.6.1949.
30; limestone; small shrubs of *Croton, Cassia* and *Lantana* with *Pisonia* trees; on and below rock debris with leaf decay!, chiefly of *P. subcordata*, on stems of *P. s.*

485 Northern slope near shore, North of SANDY GROUND, 16.6.1949.
5–10; limestone; small shrubs of *Croton* with scattered *Albizzia* and a few *Pisonia* and *Coccoloba*; on shrubs of *Cr. flavens* and *A. lebbeck*, in leaf decay of *Co. uvifera* and *P. subcordata*, on rock debris.

486 Western part of UPPER PRICKLY PEAR ISLAND, 17.6.1949.
10; coral sandstone; small, scattered shrubs; in fissures.

Dog Island

487 At DOG ISLAND SALTPOND, near landing, 17.6.1949.
1/4–1; limestone; very scanty herbs and shrubs; under rock debris and in fissures, on salty mud.

488 Near DOG ISLAND WELL at N. coast, 17.6.1949.
2; limestone; shrubs with *Pisonia* trees; in dry leaf decay of *P. subcordata*, under rock debris, on stems.

Station number. Locality, date.
Altitude in m; soil; vegetation; special habitat.

489 East of Dog Island well at N. coast, 17.6.1949.
10–20; tuffoid limestone; hardly none (exposed, rocky slope); between flat pieces of limestone!

New Providence

491 Near Gregory's Arch, Nassau, 16.8.1949.
15?; limestone; garden, roadside; between some fallen leaves! on lawn.

492 Pine Barrens, N of Carmichael Road, 22.8.1949.
5?; limestone; rather scanty vegetation with *Coccothrinax* and *Pinus caribaea*; in leaf decay!, on and below rocks.

493 Near Hunt's Cave, S. part of Blue Hills, 22.8.1949.
10?; limestone; considerable growth of shrubs and small trees; between leaf decay! chiefly of *Ficus* and *Clusia*, in fissures and between rock debris.

494 Hunt's Cave, S. edge of small ridge belonging to Blue Hills, 22.8.1949.
10?; limestone; none (dark); on rock surface, between rock debris with bat feces, 30–40 m from entrance.

North Bimini

495 Shore of lagoon near Alice Town, 18.8.1949.
$^1/_4$; sand; almost none; between and below 5–10 cm thick mass! of decaying *Thalassia* and algae.

496 Near Alice Town, 18.8.1949.
1–3; sand; beach vegetation, poor gardens, coconut trees; on plants, rock and sand, under debris, in houses.

South Bimini

497 Northern coast, near lagoon, 20.8.1949.
$^1/_{10}$–$^1/_2$; limestone, detritus; scattered beach vegetation; on and under flat pieces of limestone, on plants.

498 Near the Fountain of Youth, 20.8.1949.
2; limestone; considerable growth of shrubs; on and below rock debris, in fissures with plant decay!

Cat Key

499 Near landing, 21.8.1949.
3; limestone; some coconut trees in small gardens; between some debris at base of tree.

FRESH AND BRACKISH WATER HABITATS

Some general information is given in *Studies 1*, and *Zool. Ergebn.* 1933.

Several data on the fauna and flora of these habitats are to be found in *Studies 1, 2, 3, Zool. Ergebn.* 1933 and 1936, FRÉMY 1941, GEIJSKES 1934, VAN OOSTSTROOM 1939, VIETS 1940, 1940 (Hydr.), and ZANEVELD 1941.

SYNOPSIS

In this classification "near" means 2–20 m; "some distance" 20–2000 m, and "far" 2 km or more.

Station numbers from
Leeward Group: 8, 9, ... 372, 374, ... etc.
Windward Group: *500, 501, 502,* .... etc.
S. American mainland, Trinidad: (1), (2), ... (105), (106) .... (371), (406).... etc.
Bahamas: (*546*), (*547*), (*548*) .... etc.

FLOWING WATER, OFTEN WITH QUIET POOLS

CONNECTED WITH LIMESTONE

at spring

(overflowing pool)

never dry 72, 80

probably never dry 76, 77

probably occasionally dry 385, 386, *545*

(brooklet)

never dry 48, 71, 79, 395

near spring

(overflowing pool)

probably occasionally dry 79B

(water track)

probably occasionally dry 76B, 77A, 80A

(brooklet)

probably never dry 74, 76A

probably occasionally dry 48A, 79A, 93A

at some distance from spring

(overflowing pool)

probably occasionally dry 72A

usually dry for a few months a year. 71A

far from spring

(rivulet)

probably never dry . . . . . (2)

STAGNANT OR APPARENTLY STAGNANT WATER

WATER ANALYSES

OF FRESH AND BRACKISH WATER HABITATS

Samples collected in 1948–'49 were studied by F. W. KLEVE, Aruba; other analyses from *Studies 1*, p. 28. The pH were determined in the field with the colorimetric method of Czensky.

Water indicated by station numbers in italics may be considered as ground water; an exclamation mark denotes flowing water.

Station:	*Locality*:	*Date of sampling*	*Cl' mg/l*	*HCO_3' mg/l*	*Total hardn. Germ°.*	*pH*
	NE. Venezuelan Continent					
371	Puddle at Los Angelitos	10.8.1948	105	180	18	–
1!	Río Chuspa	30.7.1936	40	170	7	6.5
2!	Río Guanta	7.4.1937	290	420	27	–
4	Estanque Manglillo	26.6.1936	490	140	23	7.2
5	Estanque Manglillo	26.6.1936	200	170	8	7.2
6	Estanque Chacopata	27.6.1936	380	160	15	7.0
	Coche					
8	Poza El Guamache	25.6.1936	930	230	31	6.6
	Cubagua					
9	Pozo Ranchería	21.5.1936	1550	560	46	7.6
	Margarita					
10	Poza Laguna Dulce	20.5.1936	550	590	47	–
11	Aljibe Laguna Dulce	20.5.1936	55	430	18	–
12	Poza Baranca	20.5.1936	120	260	9	–
13	Estanque Lato	20.5.1936	70	150	3	6.9
14	Aljibe San Antonio	13.7.1936	1850	540	130	8.0
15!	Manantial de Güiri	13.7.1936	80	460	23	7.0
16	Aguas Saladas, rivulet	11.8.1936	4400	–	280	7.7
17!	Toma del Encañado, brooklet	13.7.1936	270	760	42	8.0
18	Laguna Honda	16.5.1936	150	160	5	7.0
19!	Toma de Tacarigua, aquaduct	11.8.1936	80	95	4	6.5
20	Aljibe de la Fuente	11.5.1936	110	690	29	7.5
21!	Toma de La Asunción	6.7.1936	50	100	5	6.9
22!	Río Asunción	3.7.1936	120	200	10	6.8
23!	Río Asunción	11.5.1936	390	590	32	8.0
24	Poza de Los Robles	27.5.1936	85	160	4	6.9
26!	Toma del Valle, rivulet	4.7.1936	60	150	5	7.1
28	Peila del Cerrito	27.5.1936	55	120	5	6.9
	Los Testigos					
29	Pozo de la Iguana	14.6.1936	790	390	23	?7.1
30	Poza de la Iguana	14.6.1936	460	550	10	?7.1
31	Pozo de Tamarindo	15.6.1936	95	270	10	?7.1
32	Poza Inglés	15.6.1936	30	190	8	?6.9
33	Puddle on Tamarindo	16.6.1936	30	160	8	?6.5
34	Puddle on Tamarindo	16.6.1936	15	220	9	?7.1

Station:	Locality:	Date of sampling	Cl' mg/l	HCO_3' mg/l	Total hardn. Germ°.	pH
	Blanquilla					
35	Pozo del Falucho	21.7.1936	1450	500	47	7.6
36	Pozo del Jaque	22.7.1936	1650	660	22	7.6
37	Pozo del Jaque	22.7.1936	840	560	24	7.6
38	Laguna de Laguá	22.7.1936	970	690	31	7.4
	Orchila					
39	Pozo de Uespén	24.7.1936	1340	870	49	7.6
40	Pozo de Uespén	24.7.1936	190	350	17	7.6
	Los Roques					
41	Pozo de la Vaca	25.7.1936	2100	730	63	7.9
42	Pozo de la Cabecera	26.7.1936	3650	910	100	7.1
43	Puddle, Cayo de Agua	26.7.1936	1350	680	46	7.7
	Bonaire					
44!	Pos Bronswinkel	27.3.1937	530	420	14	7.7
372A	Bak di Pos Labra	22.2.1949	1770	430	–	9.2
45	Dos Pos	27.3.1937	450	520	20	7.6
374	Puddle at Rincón	26.2.1949	85	360	15	8.0
46	Tanki Onima	13.11.1936	40	160	6	7.8
47	Pos Letín	13.11.1936	350	320	15	7.7
47b	— —	19.9.1948	1790	–	–	–
48!	Fontein	13.11.1936	350	350	22	?8.3
48a!	— —	30.3.1937	360	370	20	8.3
48c!	— —	11.9.1948	425	500	28	–
48d!	— —	26.2.1949	370	570	18	8.5
	— —	27.3.1949	?450	–	–	–
375	Oeroesjan Blanco, cavern water	3.9.1948	1450	590	39	–
49	Pos Boven Bolivia	24.3.1937	2400	640	60	8.4
50	Tanki George	25.3.1937	60	200	4	9.0
51	Tanki Kerkhof	31.3.1937	230	340	14	–
376	Pos, Kralendijk	3.9.1948	90	320	11	–
376a	— —	24.2.1949	90	180	10	8.5
376b	— —	16.9.1948	90	530	14	–
376A	Sheet of water, Kralendijk	3.9.1948	90	240	8	–
377	Sheet of water, Kralendijk	3.9.1948	90	210	4	–
378	Sheet of water, Kralendijk	24.2.1949	195	480	6	?9.0
52	Pos Ichi	14.11.1936	160	190	10	8.0
	— —	8.10.1931	920	–	30	–
52a	— —	31.3.1937	1400	290	33	8.3
52c	— —	2.9.1948	140	305	11	–
52d	— —	27.12.1948	90	395	16	–
52e	— —	21.2.1949	90	240	12	?8.7
53	Pos Baca	14.11.1936	230	100	8	?7.7
	— —	8.10.1931	3020	–	47	–
53a	— —	31.3.1937	860	330	30	7.8
53c	— —	16.9.1948	2580	165	54	–

Station:	Locality:	Date of sampling	Cl' mg/l	HCO_3' mg/l	Total hardn. Germ°.	pH
53d	— —	21.2.1949	550	365	17	?9.2
54a	Pos Baca Chikitoe	16.9.1948	195	365	14	–
54b	— —	27.12.1948	230	395	17	–
54c	— —	21.2.1949	105	210	8	8.5
379	Pos Baca Grandi	2.9.1948	655	260	16	–
379a	— —	16.9.1948	1260	440	34	–
379b	— —	27.12.1948	180	395	18	–
379c	— —	21.2.1949	1820	150	37	?8.0
379d	— —	2.9.1949	2180	335	45	–
55	Pos Calbas, Lima	1.4.1937	880	450	32	7.8
55a	— —	8.9.1948	1510	–	–	–
	— —	26.2.1949	1520	–	–	–
	— —	24.3.1949	1450	–	–	–
56	Cave of Watapana	1.4.1937	1500	500	45	7.5
57	Pos Caranja	14.11.1936	2600	350	65	7.5
57a	— —	31.3.1937	2500	380	65	7.5
57c	— —	5.9.1948	620	180	21	–
	— —	21.9.1948	1360	–	–	–
57d	— —	21.2.1949	3330	–	–	7.4
	— —	27.2.1949	3450	–	–	–
380a	Pos Caranja Grandi	21.2.1949	3370	395	–	7.4
	— —	8.10.1931	4080	–	63	–
	— —	21.9.1948	2200	–	–	–
381	Pool, Punt Vierkant	5.9.1948	210	240	14	–
382	Salinja, Punt Vierkant	5.9.1948	3812	390	–	–
	— —	21.9.1948	12300	–	–	–
382Aa	Salinja Punt Vierkant, hole	15.9.1948	4370	–	–	–
58	Pos Francés	31.3.1937	540	360	22	8.3
383	Pos Soedestsoed	21.9.1948	370	530	31	–
59	Pos Oranjepan	26.3.1937	1500	400	45	7.8
60	Pos Lansberg, S	26.3.1937	370	320	16	8.8
60b	— —	21.9.1948	8860	–	–	–
	Klein Bonaire					
61a	Pos di Cas	23.3.1937	410	270	17	8.3
61b	— —	7.9.1948	620	480	37	–
63	Tanki Calbas	15.11.1936	120	100	5	8.5
63a	— —	23.3.1937	850	330	17	8.7
63c	— —	7.9.1948	12160	–	–	–
63d	— —	1.9.1949	12410	–	–	9.2
385!	Salinja, crab-hole	7.9.1948	2180	–	–	–
386!	Salinja, crab-hole	7.9.1948	1800	–	–	–
	Klein Curaçao					
387	Pos N of Lighthouse	1.10.1948	725	305	17	–
64	Pos N of Lighthouse	29.8.1936	530	430	19	8.0
64A	Pool N of Lighthouse	29.8.1936	5050	–	200	–

Station:		Locality:	Date of sampling	Cl' mg/l	HCO_3' mg/l	Total hardn. Germ°.	pH
		Curaçao					
	65	Pos di Hofje Ariba, Fuik	9.9.1936	200	470	24	8.5
	65A	Bak di Hofje Ariba, Fuik	9.9.1936	210	540	26	8.7
	66	Tanki di Cas Klein St. Joris	6.9.1936	1980	450	95	8.7
	67	Bak di Hofje Groot St. Joris	10.10.1936	790	550	50	7.7
	67a	— —	9.4.1949	745	365	49	–
388		Pos Bacoval, Santa Barbara	14.8.1948	955	–	–	–
389		Pool at Agr. Exp. Station	11.12.1948	690	480	340	–
390		Pool at Museum	25.4.1949	725	180	49	8.2
	68	Puddle at Piscadera	10.10.1936	40	190	8	8.3
	69	Puddle at Piscadera	10.10.1936	60	310	12	8.2
392		Tanki Steenen Koraal	17.4.1949	1560	240	53	–
	70	Tanki Koenoekoe Hatoen	15.10.1936	690	400	27	8.5
	71!	Boca Spelonk	13.10.1936	310	400	20	7.4
	71a!	— —	29.8.1949	705	515	37	7.1
	72!	Boca di Leeuw	13.10.1936	210	280	16	7.6
	72a!	— —	29.8.1949	365	420	21	7.1
	73	Cave of Hato	16.9.1936	160	250	12	8.5
	73a	— —	5.10.1936	160	230	12	8.5
	74!	Spring of Cajoeda	1.10.1936	320	200	17	8.3
	74a!	— —	5.5.1949	1130	335	49	–
	75	Tanki Mamaja	6.10.1936	450	230	13	8.7
	75a	— —	11.10.1936	380	225	12	?8.5
	76!	Spring of Wandongo	6.10.1936	230	290	17	7.2
	76Aa!	— —	11.10.1936	240	300	18	7.3
	77!	Bak Rincón	11.10.1936	150	320	16	–
	78	Tanki Monpos	11.10.1936	310	260	19	8.2
393		Well W of Hato	7.3.1949	2500	–	–	8.1
		— —	9.12.1948	2900	–	–	–
394		Sjingod, cavern water	7.3.1949	3260	–	–	8.0
	79!	Spring of San Pedro, S	22.10.1936	360	400	21	?7.8
	79a!	— —	1.12.1948	440	575	30	7.9
	79B!	— —	13.2.1949	390	335	15	–
		— —	1.12.1948	440	–	–	8.5
		— —	20.2.1949	405	245	11	–
		— —	11.3.1949	405	335	21	–
		— —	27.3.1949	635	213	25	–
		— —	1.5.1949	1070	450	51	–
		— —	8.5.1949	1600	300	29	–
395!		Spring Hofje San Pedro	13.2.1949	405	335	18	–
	80a!	Spring of San Pedro, N	1.12.1948	600	670	30	7.8
		— —	20.2.1949	515	390	21	–
		— —	11.3.1949	495	420	19	–
		— —	27.3.1949	405	395	25	–
		— —	1.5.1949	470	395	45	–
		— —	8.5.1949	495	335	64	–

Station:		Locality:	Date of sampling	Cl' mg/l	HCO_3' mg/l	Total hardn. Germ°.	pH
	80A!	— —	22.10.1936	460	440	24	–
	80Aa!	— —	13.2.1949	495	360	22	–
	81	Pos di Wanga	9.11.1936	260	170	11	8.7
396		Tanki di Tera Corá	20.8.1948	335	90	21	–
396a		— —	1.12.1948	160	135	8	?9.2
396c		— —	11.2.1949	480	240	15	9.0
397		Tanki Martha-Koosje	24.8.1948	320	–	–	–
397a		— —	1.12.1948	125	305	8	?9,0
397b		— —	29.1.1949	240	180	15	–
397c		— —	11.2.1949	280	120	16	9.0
397d		— —	15.4.1949	510	150	11	–
398		Tanki di Malpays	28.10.1948	125	275	10	–
	82	Pos Europa	27.10.1936	470	700	36	?8.9
	82a	— —	11.2.1949	210	610	22	7.6
	83	Pos Ariba, Dokterstuin	27.10.1936	710	680	41	?9.4
	84	Pos St. Kruis	24.10.1936	270	600	31	?8.5
	85	Tanki St. Kruis	24.10.1936	430	880	44	?8.9
	86!	Pos Sorsaka	10.11.1936	600	500	49	?8.5
	87!	Rooi Sánchez, water track	11.11.1936	2100	340	90	?8.3
399		Pos Cajoeda	17.8.1948	390	240	23	–
	88	Pos Sjimarrón	10.11.1936	3500	800	200	?8.3
	88a	— —	23.12.1948	1490	790	–	?7.8
	88b	— —	11.2.1949	760	335	31	?7.2
	89	Tanki di Savonet	29.10.1936	3200	780	160	–
	90	Puddle, Westpunt	27.10.1936	44	190	10	?8.2
		Aruba					
	91	Puddle, Quadirikiri	9.2.1937	80	300	45	–
	92	Pos di Fontein	23.12.1936	400	290	18	7.8
	93	Pond of Fontein	23.12.1936	400	300	19	7.8
	93a	— —	2.7.1930	210	–	–	–
	93b	— —	30.12.1948	460	150	17	–
	94	Pos Grandi, Rooi Lamoenchi	12.2.1937	960	390	26	7.8
	95	Pos W of Rooi Lamoenchi	11.2.1937	720	430	26	7.9
	96	Tanki Chikitoe, R. Lam.	12.2.1937	1570	120	22	9.2
	97	Tanki Mon Plaisir	15.12.1936	60	140	4	9.0
	98	Tanki di Westpunt	9.12.1936	80	170	5	8.2
	99	Tanki, Tibusji	9.12.1936	170	350	6	9.7
	100	Tanki Leendert	16.12.1936	35	130	4	?8.5
400		Tanki W of Hooiberg	31.12.1948	60	–	–	–
400b		— —	18.1.1949	18	150	4	?5.8
400c		— —	19.1.1949	18	60	3	?8.0
		— —	24.1.1949	18	60	3	–
		— —	5.2.1949	43	195	4	–
400d		— —	10.2.1949	43	45	3	–
	101	Tanki di Rooi Canashito	7.12.1936	3500	950	48	8.4

Station:	*Locality*:	*Date of sampling*	*Cl' mg/l*	*HCO_3' mg/l*	*Total hardn. Germ°.*	*pH*
401	Tanki di Cas Ariba	30.12.1948	18	180	8	–
401a	— —	18.1.1949	35	335	45	?8.0
102!	Spring of Pos di Noord	30.12.1936	3250	550	55	8.0
102A!	— —	30.12.1936	3300	950	60	8.7
402	Cave of Andicuri	26.8.1949	780	120	4	–
103!	Brooklet in Rooi Bringamosa	6.1.1937	3150	900	50	8.8
103a!	— —	18.1.1949	4910	–	–	–
403	Tanki di Rooi Kabaai	28.12.1948	1860	–	–	–
404	Water in tree, Rooi Kabaai	28.12.1948	630	1030	39	–
405	Puddle in Rooi Juditi	28.12.1948	2260	–	–	–
104!	Bron di Rooi Prins	9.1.1937	1300	600	36	7.6
104Aa!	— —	26.8.1949	1345	670	40	–
	Paraguaná					
105	Poza de la Compañía	15.2.1937	140	200	8	9.2
106	Poza de San Antonio	16.2.1937	170	250	9	8.0
107	Poza Supideo	16.2.1937	190	250	7	8.1
108	Estanque de Moruy	18.2.1937	50	200	6	8.8
109	Estanque de Santa Fé	18.2.1937	120	250	5	9.1
110	Estanque de Santa Ana	16.2.1937	110	180	7	8.3
	La Goajira					
111	Pozo de Macaralpao	14.1.1937	890	1000	60	–
112	Pozo del Cabo de la Vela	22.1.1937	65	300	12	–
113	Poza del Arroyo, Cardón	27.1.1937	85	250	11	–
114	Laguna del Pájaro	21.1.1937	820	450	19	–
115	Río Calancala	17.1.1937	85	350	10	–
	Trinidad					
116	Rivulet near Four Roads	7.5.1936	30	140	7	–
117	Pool near Four Roads	7.5.1936	40	70	4	–
	Suriname					
406	Swamp near Charlesburg	2.8.1948	18	30	3	–
118	Well in Cultuurtuin	2.5.1936	40	90	10	–
119	Trench in Cultuurtuin	2.5.1936	30	110	11	–
120	Pond of Belwaarde	3.5.1936	20	130	6	–
408	Pool at Zanderij	3.8.1948	17	105	4	–
409	Pool at Zanderij	3.8.1948	17	60	3	–
	Nevis					
500	Nelson's Spring	28.6.1949	88	485	17	8.6
501!	Jones' River	28.6.1949	230	245	11	7.6
502!	Hot Spring of Bath	28.6.1949	70	550	18	7.2
	St. Christopher					
503	Wingfield River	30.6.1949	35	150	7	7.6
	St. Eustatius					
504	Water in Bromeliad	12.7.1949	280	60	4	?6.7
505	Manahega Cistern	7.7.1949	2300	1000	55	?8.5

Station:	*Locality*:	*Date of sampling*	*Cl' mg/l*	*HCO_3' mg/l*	*Total hardn. Germ°.*	*pH*
506	Manahega Well	7.7.1949	1665	1090	95	7.9
507	Twin Cisterns	7.7.1949	516	580	28	?8.0
508	New Well	7.7.1949	17	515	19	7.8
509	Gin House Cistern	7.7.1949	35	150	8	7.5
510	Samson Well	10.7.1949	2100	640	33	7.9
511	King's Well	13.7.1949	3450	450	105	7.9
512	Receptacle, Golden Rock	8.7.1949	105	270	11	8.2
513	Cistern near Zeelandia	8.7.1949	35	210	10	8.7
514	Well of Zeelandia	8.7.1949	2690	730	72	7.6
515	Spout Well	8.7.1949	7940	270	21	8.7
	Saba					
516	Spring of Spring Bay	28.7.1949	1410	790	39	?8.2
517	Well of Spring Bay	28.7.1949	160	305	19	?7.4
518	Water Hole	25.7.1949	35	30	7	7.2
519	Water in Bromeliad	26.7.1949	140	60	8	–
520	Booby Hill Cistern	25.7.1949	17	150	4	7.8
522!	Hot Spring at Land Point	15.3.1950	2100	–	110	–
	St. Barthélemy					
523	Puddle S of Lorient	3.6.1949	3500	–	–	?7.2
524	Mar des Palmiers, well	3.6.1949	3540	–	–	8.0
	Fourche					
525	Five Island Well	2.6.1949	1450	1120	37	?8.0
	Tintamarre					
526	Flat Island Well	20.6.1949	5670	–	–	–
	St. Martin					
528	Pond of Point Blanche	17.5.1949	7800	–	–	?9.2
529	Old Battery Cistern	18.5.1949	105	270	16	8.1
530	Crab Hole Cistern	18.5.1949	9920	–	–	8.7
532	Puddle, Rambeau Valley	20.5.1949	380	1220	30	7.2
533	Yard-well of Heyligers	20.5.1949	160	545	19	8.0
534	Puddle, Colombier Valley	20.5.1949	265	545	42	6.6
537	Slob at St. Peter	24.5.1949	35	150	2	?9.0
538	Doctor's Well	24.5.1949	355	1130	32	8.0
539	Puddle near Doctor's Well	24.5.1949	635	850	18	?8.0
542	Devil's Hole Swamp	4.8.1949	13800	–	–	?8.0
	Anguilla					
543	Forest Point Saltwell	18.6.1949	4070	1190	112	7.6
544	Bedney's Spring	18.6.1949	1505	365	47	8.2
545!	Spring near Bedney's	18.6.1949	4960	–	–	7.7
	Dog Island					
546	Well near N. coast	17.6.1949	1410	610	37	?8.0
	New Providence					
547	Trench of Waterworks	23.8.1949	300	305	15	–
548	Archbold's Pond	23.8.1949	17	210	12	–
	South Bimini					
549	"Fountain of Youth"	20.8.1949	475	510	14	–

DESCRIPTION

(Fresh and Brackish water habitats)

A capital letter behind the station number indicates a different habitat; an ordinary letter denotes that the same habitat has already been studied before. A full-stop behind the station number indicates that 10 liter of water have been sampled with a metal plancton-sieve of Kolkwitz. Water analyses on p. 32-38. Depth from surface of land to water level.

Description of Sta. 1–120 in *Studies 2*, p. 2–20.

Explanation of a few *common terms which often have a special local significance* (spanish = papiamento (dutch) = english):
Aljibe = *pos*, (put) = deep well
Boca = *boca* [not used in the sense of Bay], *fontein*, (bron) = spring in hole
Estanque = *tanki*, (vijver) = pond
Laguna = tanki, lagoen, (lagune) = large pond, lagoon
Manantial = *fontein*, boca, (bron) = *spring*, fountain, well
Peila, cisterna, aljibe = *bak*, (regenbak) = tank, *cistern*
Poza = *tanki*, (plas, vijver) = small pond, *slob*
Pozo = *pos*, (put) = *well*
Saliña = *salinja*, (pekelmeer, zoutvlakte) = *salt pond*, salty mud flat
Quebrada, arroyo = *rooi* = *gut*, gully, usually dry river bed

Station number. Locality, date (day. month. year).
Dimensions of water body in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour.

N E Venezuelan Continent

371. Puddle in Quebrada Los Angelitos, W of La Guaira, 10.8.1948.
$1 \times {}^1/_2 \times {}^1/_2$; stagnant; temporary, rivulet after rains; natural; schists (alt. 140 m); rock with some decay; none; turbid, almost colourless.

371A. Puddle in Quebrada Los Angelitos, 10.8.1948.
As before (alt. 120 m); turbid, slightly coloured. (estimated at about 100 mg Cl/l)

Bonaire

372 Bak di Pos Labra, Brasiel, 3.6.1930.
$5 \times 1 \times {}^1/_5$; stagnant; temporary; cemented trough near 7 m deep well;
diabase and porfirite; masonry and mud; algae; clear, colourless. (est. 600–800 mg Cl/l)

372A. Bak di Pos Labra, 22.2.1949.
As before; some small algae; turbid, greenish grey. (from well pH 8.2)

374. Puddle of parsonage at Rincón, 26.2.1949.
$1 \times 1 \times {}^1/_{10}$; stagnant; temporary; cemented trough in garden; (diabase and porfirite); masonry, plant decay; overgrown with *Eichhornia, Cyperus alternifolius*; clear, colourless. (25°C)

Station number. Locality, date.
Dimensions of water body in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour.

47b. Pos LETÍN, Onima, 19.9.1948.
$1^1/_2 \times 1 \times {}^1/_2$; stagnant; permanent; natural but deepened in $5^1/_2$ m deep crevice;
coral limestone; clayish mud and rock: almost none (shady); rather clear, nearly colourless.

48c Spring of FONTEIN, 11.9.1948.
$^1/_5 \times {}^1/_{20}$; rather rapidly flowing, about 500 l/hour; permanent; cemented gutter from spring;
coral limestone on weathered diabase; masonry with clayish substance and sinter, some leaf decay; practically none (shady); clear, colourless.

48d Spring of FONTEIN, 26.2.1949.
As before, but capacity not measured. (28°C)

48A Spring of FONTEIN, 11.9.1948.
$^1/_{10} \times {}^1/_{20}$; as 48c, but gutter not permanent, and sometimes cleaned;
masonry; algae.

48B. Bak di FONTEIN, 11.9.1948.
$9 \times 7 \times 1$; practically stagnant; temporary; cemented cistern near spring, sometimes cleaned;
limestone on weathered soil; masonry, some detritus; algae; clear, almost colourless. (water of 48c)

48Ba Bak di FONTEIN, 26.2.1949.
As before, but turbid, just cleaned. (pH 8.7; 27°C)

48C. Bak di FONTEIN, 11.9.1948.
$9 \times 5 \times 1$; as 48B.

375. OEROESJAN BLANCO, S. Colombia, 3.9.1948.
$6 \times 2 \times 1^1/_2$ and more; stagnant; permanent; cavern water in sink hole of about 12 m deep;
coral limestone; rock with some mud; very thin coating of small algae (almost dark); clear, colourless.

376. Pos N of KRALENDIJK, 3.9.1948.
$^1/_2 \times {}^1/_2 \times 1$; stagnant; possibly temporary; rather artificial, covered in 1937;
limestone; rock and some mud; thin coating of small algae (shady); slightly turbid, greyish.

376a Pos N of KRALENDIJK, 24.2.1949.
$^1/_2 \times {}^1/_2 \times {}^1/_2$; as before;
turbid, slightly greyish brown. (26°C)

376b Pos N of KRALENDIJK, 16.9.1948.
$^1/_2 \times {}^1/_2 \times {}^1/_4$; as 376.

376A. SHEET OF WATER N of KRALENDIJK, 3.9.1948.
$10 \times 2 \times {}^1/_7$; stagnant; temporary, dry after 12 days; in very shallow sink hole, 376 at its border;
limestone; mud and rock; almost none; turbid, greyish brown.

377. SHEET OF WATER N of KRALENDIJK, 3.9.1948.
15 × 3 × 1/5, hole 1/5 × 1/5 × 1/3 (near 376, 35 m SE of 378); stagnant; temporary, dry after 12 days; as before.

378 SHEET OF WATER N of KRALENDIJK, 24.2.1949.
3 × 2 × 1/5; stagnant; temporary, quickly drying; natural; limestone; mud and rock; none; turbid, slightly greyish brown. (31°C)

52c. Pos ICHI, 2.9.1948.
2 1/2 × 1 1/2 × 1/3; stagnant; possibly permanent; dug at margin of shallow sink hole, 1 1/2 m deep;
limestone; clayish mud and rock; almost none; turbid, greyish.

52d Pos ICHI, 27.12.1948.
2 × 1 × 1/3; as before. (fr. M. ARNOLDO BROEDERS coll.)

52e Pos ICHI, 21.2.1949.
2 × 1 × 1/3; as in 52;
turbid, greyish brown (polluted).

53c. Pos BACA, 16.9.1948.
1 1/2 × 1 1/2 × 1/2; stagnant; probably permanent; rather artificial, near margin of shallow sink hole with 54, upper part cemented;
limestone; rock and black mud; many algae; clear, slightly greenish.

53d Pos BACA, 21.2.1949.
1 1/2 × 1 1/2 × 1/4; as before.

54a Pos BACA CHIKITOE, 16.9.1948.
1 × 1/2 × 1/2; stagnant; possibly permanent, 2 weeks before 12 × 10 × 3/4; dug in margin of very shallow sink hole;
limestone with clayish mud; clayish mud and rock; almost none; turbid, greyish.

54b Pos BACA CHIKITOE, 27.12.1948.
3/4 × 1/2 × 2/5; as before. (fr. M. ARNOLDO BROEDERS coll.)

54c Pos BACA CHIKITOE, 21.2.1949.
1 × 1/2 × 3/4; as before.

379. Pos BACA GRANDI, E of Pos Baca, 2.9.1948.
9 × 9 × 1/5; stagnant; temporary; in shallow sink hole;
limestone; clayish mud and rock; much *Heleocharis* and *Chara*, some *Ruppia*; clear, very slightly greyish.

379a Pos BACA GRANDI, 16.9.1948.
8 × 7 × 1/10; as before.

379b Pos BACA GRANDI, 27.12.1948.
9 × 9 × 1/5; as before. (fr M. ARNOLDO BROEDERS coll.)

379c Pos BACA GRANDI, 21.2.1949.
1/5 × 1/5 × 1/100, almost dry; as before;
thick mud; dense growth of *Heleocharis capitata*; clear, colourless.

379d Pos BACA GRANDI, 2.9.1949.
9 × 8 × 1/5; about the same as 379.

Station number. Locality, date.
Dimensions of water body in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour.

55a Pos CALBAS, 8.9.1948.
?10 × 7 × 1/4 and more; stagnant; permanent; cavern water at margin of sink hole, 3 m deep, with tidal movements;
coral limestone; rock and black mud, calcite crystals; almost none (shady); clear, colourless.

57c. Pos CARANJA, 5.9.1948.
4 1/2 × 2 × 1 (— 3); stagnant; permanent; cavern water in sink hole, 1 1/4 below plateau, with tidal movements;
coral limestone; rock and black mud; coating of very small algae; clear, colourless.

57d Pos CARANJA, 21.2.1949.
The same.

380 Pos CARANJA GRANDI, 60 m W of Pos Caranja, 23.9.1930.
?3 × 2 × 1 (—?4); stagnant; permanent; cavern water at margin of sink hole, 3 m deep, with tidal movements;
coral limestone; rock and some black mud; almost none (shady); clear, colourless.

380a. Pos CARANJA GRANDI, 21.2.1949.
The same.

381. POOL NE of PUNT VIERKANT, 5.9.1948.
15 × 15 × 1/5; stagnant; temporary, dry after 10 days;
in very shallow sink hole;
limestone; greyish mud and rock; small algae; clear, colourless.

382. SALINJA E of PUNT VIERKANT, 5.9.1948. (Plate II*a*)
100 × ?20 × 1/3; stagnant; temporary, after 2 weeks 20 × × 10 × 1/6;
limestone; greyish mud and tufa deposits, rock; small algae, *Conocarpus*; slightly turbid; brownish yellow.

382A HOLE IN SALINJA E of PUNT VIERKANT, 5.9.1948.
1/5 × 1/5 × 1/3; stagnant; possibly permanent, after heavy rains in communication with 382;
limestone; limestone and greyish blue mud; small algae; rather clear, greyish yellow.

382Aa. HOLE IN SALINJA E of PUNT VIERKANT, 15.9.1948.
?1/2 × 1/2 × 1/6; as before, since about 2 weeks not in communication with 382.

383. Pos SOEDESTSOED, SE of Witte Pan, 21.9.1948.
1 × 1 × 1/2; stagnant; probably permanent; rather natural, made more accessible;
limestone; limestone and debris; many algae; clear, colourless.

60b. Pos LANSBERG (S), 21.9.1948.
1 × 3/4 × 1/10; stagnant; possibly temporary; rather artificial, near natural crevices;
limestone; soft mud, some rock; many algae; rather clear, colourless. (somewhat polluted)

384. Pos FLAMBAAI, near Zuidpunt, 31.9.1948.
$^{2}/_{3} \times {}^{2}/_{3} \times {}^{3}/_{5}$; stagnant; probably permanent; possibly rather natural, made accessible;
limestone; rock debris; thin coating of algae; clear, practically colourless. (est. about 1000–1200 mg Cl/l)

Klein Bonaire

61b. Pos DI CAS, 7 .9.1948.
$6 \times 2 \times 1$(—2?); stagnant; permanent; cavern water in sink hole; coral limestone; rock with black mud; algae; clear, almost colourless.

63c. TANKI (or Pos) CALBAS, Klein Bonaire, 7.9.1948. (Plate II*b*)
$12 \times 5 \times {}^{1}/_{4}$; stagnant; probably permanent; in natural depression;
limestone; mud and some rock; algae; with incrustations, clusters of *Chara*, small *Ruppia*; clear, almost colourless.

63d TANKI CALBAS, 1.9.1949.
$10 \times 5 \times {}^{1}/_{4}$; as before;
considerable growth of *Ruppia*, scattered clusters of *Chara*.

385. CRAB HOLE near SALINJA, 7.9.1948.
$?^{1}/_{3} \times {}^{1}/_{10} \times {}^{1}/_{10}$; stagnant; probably not permanent; rather natural pool at margin of salinja;
limestone and rock detritus; sandy mud; some algae; clear, colourless.

386 CRAB HOLE near SALINJA, 7.9.1948.
$?^{1}/_{4} \times {}^{1}/_{5} \times {}^{1}/_{20}$; overflowing pool; possibly not permanent; small spring in old crab hole;
limestone and rock detritus; sandy mud, leaf decay; some algae; clear, colourless.

Klein Curaçao

387. Pos N of lighthouse, 1.10.1948.
$1^{1}/_{2} \times 1^{1}/_{2} \times {}^{1}/_{2}$; stagnant; permanent; artificial, with cemented trough;
limestone; rock with some debris; considerable growth of algae; clear, colourless.

Curaçao

67a. BAK DI HOFJE GROOT ST. JORIS, 9.4.1949.
$15 \times 5 \times 1$; stagnant; temporary; cemented cistern with overflow, supplied from deep well;
(diabase); masonry with mud and plant decay; considerable growth of algae; clear, almost colourless.

388 Pos BACOVAL, Hofje Chikitoe, Santa Barbara, 14.8.1948.
$1 \times {}^{1}/_{2} \times {}^{1}/_{50}$; stagnant; temporary; hole of $20 \times 15 \times 2$ m, possibly used as a bath (Gouverneursbad) in old times;
debris of limestone on weathered diabase, detritus; thick mud with decay of *Coccoloba* and *Achras*; few algae; rather clear, slightly greenish.

Station number. Locality, date.
Dimensions of water body in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour.

389. POOL AT AGRICULTURAL EXPERIMENT STATION, Cas Corá, 11.12.1948
$5 \times 1^1/_2 \times 1$; stagnant; temporary?; concrete basin, few years old;
(diabase); masonry, plant decay; growth of *Nymphaea*, algae; clear, colourless.

389A POOL AT AGRICULTURAL EXPERIMENT STATION, Cas Corá, 11.12.1948.
$2 \times 2 \times 1$; as before; but with denser growth,
clear, almost colourless. (estimated at about 700 mg Cl/l)

390. POOL AT MUSEUM, Mundo Nobo, 25.4.1949.
$8 \times 3 \times {}^1/_2$; stagnant; temporary?; basin of brick work dd Feb. 1949;
(limestone); masonry, some mud; *Echinodorus*, *Nymphaea*, *Hydrocotyle*, *Marsilia*, *Cyperus*, *Eichhornia*, *Limnanthemum*, algae; rather turbid, colourless. (from water supply)

391 POOLS from Chinese gardens NEAR JULIANADORP, 4.1.1950.
$2 \times 1 \times {}^1/_2$, several; stagnant; temporary?; cemented basins; (diabase); masonry, some detritus; algae; rather clear and colourless. (estimated at 600–1000 mg Cl/l) (J. G. DE JONG coll.)

392 TANKI Grandi DI STEENEN KORAAL, N of S. Maria, 17.4.1949.
$5 \times 5 \times {}^1/_{50}$; stagnant; temporary; large basin for storing surface water, dug;
weathered diabase; soft clay; overgrown by algae; rather clear, almost colourless.

71a BOCA SPELONK di Bak Ariba, Hato, 29.8.1949.
$?{}^1/_5 \times {}^1/_{100}$; rather rapidly flowing, E part almost stagnant
$?2 \times {}^1/_2 \times {}^1/_4$; permanent; spring, made accessible by building a room of $10 \times 3 \times 2^1/_2$ m;
limestone on weathered shales; clayish substance and rock debris; none (usually dark); clear, colourless.
(71A) BAK ARIBA, Hato: dry in 1948–1949!

72a. BOCA DI LEEUW, Hofje Hato, 29.8.1949.
$?5 \times 3 \times {}^1/_2$; overflowing pool; permanent; spring, made accessible and walled in;
limestone on weathered shales; soft clayish mud, as thick as 40 cm, rock debris, concrete, roots; none (usually dark); clear, colourless.
(73) Kamber di Awa, GROT VAN HATO: dry in Aug. 1948–Aug. 1949!

74a BRON CAJOEDA, HATO, 5.5.1949.
$1 \times {}^1/_2 \times {}^1/_2$; overflowing; permanent; spring in small basin of brick work;
limestone on weathered shales; dirt with debris and leaf decay, masonry; some algae; clear, almost colourless.

74b BRON CAJOEDA, 26.9.1948.
The same.
(75) TANKI MAMAJA, Hato: has disappeared through the construction of the airport!
(76) BRON WANDONGO, Hato: dry in 1948 and 1949!
(78) TANKI MONPOS, Hato: dry in August 1948 and Aug. 1949!

393. WELL in cave, WEST OF HATO, 280 m from sea, 7.3.1949.
?5 × 3 × 1 — ?1$^1/_2$; stagnant; permanent; crevice in plateau, 8$^1/_2$ m deep, with tidal movements;
limestone; clayish substance with calcite crystals, rock; none (practically dark); clear, colourless. (26°C)

394. SJINGOD, between Hato and S. Pedro, 60 m from sea, 7.3.1949.
?20 × 10 × ?3; stagnant; permanent; cave with narrow entrance, 6 m below plateau, with tidal movements;
limestone; clayish substance with calcite crystals, rock; none (almost dark); clear, colourless. (27.8°C)

79a. Bron di SAN PEDRO, S. SPRING, 1.12.1948.
$^1/_3$ × $^1/_{50}$; rapidly flowing, 300 l/hour; permanent; spring, made accessible and walled in;
chiefly limestone; rock debris, greyish mud, sand, some leaf decay of *Bontia*; some algae; clear, colourless. (30.8°C) (20.2.'49 225 l/hour; 11.3.'49 340 l/hour)

79A Bron di SAN PEDRO, S. SPRING, 22.10.1936.
?30 × $^1/_{10}$ × $^1/_{20}$; rapidly flowing, 300 l/hour; probably permanent; cemented gutter near spring;
(chiefly coral limestone); masonry; algae. (water of 79)

79B Bak di SAN PEDRO, S. SPRING, 13.2.1949.
5 × 1 × 1; overflowing; temporary, sometimes cleaned; cemented basin near spring;
(chiefly limestone); masonry, some plant decay; considerable growth of algae; clear, colourless.

395 Bron di SAN PEDRO, S. SPRING IN HOFJE, 5 m W of 79, 13.2.1949.
?$^1/_2$ × $^1/_{20}$; rather rapidly flowing, estimated at about 1000 l/hour; permanent; spring;
chiefly coral limestone; rock debris and sand, some leaf decay; few algae; clear, colourless.

80a Bron di SAN PEDRO, N. SPRING, 1.12.1948.
?1 × 1 × $^1/_4$; overflowing; permanent; spring;
chiefly coral limestone; rock, gravel, much leaf decay; almost none; clear, colourless. (30°C)

80Aa Bron di SAN PEDRO, N. SPRING, 13.2.1949.
1 × 1 × $^1/_{20}$ wet; percolating; possibly temporary; percolating water from spring (about 100 l/hour);
chiefly limestone; weathered soil, leaf decay of *Coccoloba uvifera*; almost none; clear, colourless.

Station number. Locality, date.
Dimensions of water body in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour.

80Ab Bron di SAN PEDRO, N. spring, 11.3.1949.
$^1/_5 \times {}^1/_{10}$ wet; no; temporary, just getting dry; basin in tufa deposits near spring;
chiefly limestone; wet mud, sinter; indistinct.
(81) POS DI WANGA: dry in August 1948!

396. TANKI DI TERA CORÁ, Middle Curaçao, 20.8.1948.
$4 \times 3 \times {}^1/_4$; stagnant; temporary; probably natural, shallow depression, containing water since 2–3 weeks;
chiefly weathered shales; thick mud; some very young *Chara* and *Ruppia*; very turbid, greyish. (28.5°C)

396a TANKI DI TERA CORÁ, 1.12.1948.
$20 \times 20 \times ?^1/_2$; as before; much algae and *Najas*;
very turbid, greyish. (29.5°C)

396b TANKI DI TERA CORÁ, 29.1.1949.
$15 \times 15 \times {}^1/_2$; as 396; with many algae and *Ruppia*, some *Chara*.

396c TANKI DI TERA CORÁ, 11.2.1949.
$3 \times 2^1/_2 \times {}^1/_{10}$; as 396; with algae and much *Ruppia*;
turbid, greyish. (29–33°C) (Dry in March, until beginning of August 1949.)

397. TANKI MARTHA-KOOSJE, near Kleine Berg, 24.8.1948.
$20 \times 15 \times ?1$; stagnant; possibly permanent; for the greater part dug;
chiefly weathered shales, limestone; soft mud; several young *Najas*, some algae; slightly turbid, greyish. (30–32°C)

397a. TANKI MARTHA-KOOSJE, 1.12.1948.
$35 \times 25 \times ?1^1/_2$; as before, with *Najas*, much algae;
slightly turbid, greyish. (27–29°C)

397b TANKI MARTHA-KOOSJE, 29.1.1949.
$30 \times 25 \times ?1^1/_2$; as 397, but with much *Najas*, *Chara*, both overgrown with algae, young *Echinodorus*.

397c TANKI MARTHA-KOOSJE, 11. 2.1949.
$30 \times 25 \times ?1^1/_2$; as 397b;
clear, slightly coloured. (28–29°C)

397d TANKI MARTHA-KOOSJE, 15.4.1949.
$20 \times 15 \times ?1$; as 397, but with dense growth of *Najas* and algae, remnants of *Echinodorus*;
clear, slightly coloured.

398. TANKI NOBO DI MALPAYS, 28.10.1948.
$50 \times 10 \times ?^1/_2$; stagnant; temporary; dug a few months ago in front of dam;
diabase detritus; light brown mud; almost none; except two *Nymphaea* (probably introduced from pond nearby); turbid greyish brown.

82a Pos EUROPA, Dokterstuin, 11.2.1949.
2 × 3 × 1/5; stagnant; temporary (dry in March until August 1949); dug;
diabase and rock detritus; mud and plant decay; overgrown with *Lemna*; rather turbid, somewhat coloured. (31°C)
(83) Pos ARIBA: dry in March — August 1949!

399. Pos CAJOEDA, KNIP, 17.8.1948.
2 × 1 1/2 × 1/5; stagnant; possibly permanent; possibly natural puddle in dry river bed, deepened;
cherts, debris; some mud and debris, much leaf decay, chiefly of *Acacia* and *Anona*; algae; rather clear; somewhat greenish. (33°C)

88a Pos SJIMARRÓN, Bron di Rooi Beroe, SAVONET, 23.12.1948.
3 × 2 × 1/2; stagnant; temporary; below cascade in dry river bed; siliciferous cherts; rock, debris; few algae; clear, yellowish brown.

88b Pos SJIMARRÓN, SAVONET, 11.2.1949.
Almost dry; as before.

Aruba

93b. Pond of FONTEIN, 30.12.1948.
20 × 15 × 1/2; stagnant, overflowing; permanent, but sometimes cleaned; rather artificial basin at spring, with brick wall;
chiefly coral limestone; masonry, mud, rock and leaf decay; thin coating of algae, floating algae masses; clear, colourless.

93A Gutter of the pond of FONTEIN, 2.7.1930.
1/3 × 1/10; often rapid flowing, variable; at least one pool permanent; rather artificial, discharging overflowing pond;
weathered soil, limestone; soft mud and sand; practically none. (water of 93a)

93Aa Gutter of the pond of FONTEIN, 30.12.1948.
1/3 × 1/20; as before ;
weathered soil, limestone; sand and some mud; almost none, some algae on roots and on plant decay. (water of 93b)

400 TANKI 650 m WSW from top of HOOIBERG, 31.12.1948.
3 × 2 1/2 × 1/2; stagnant; temporary; excavated, not more than 4 years ago;
diorite; weathered diorite with some mud; indistinct; very turbid, brownish.

400b TANKI HOOIBERG, 18.1.1949.
8 × 6 × 3/4 (at 9 a.m., after heavy shower 13 hours before; dry at 12.1.1949, until 17.1.) as in 400;
very turbid, slightly greyish.

400c TANKI HOOIBERG, 19.1.1949.
7 × 6 × 3/4, at 2 p.m.; as in 400;
turbid, slightly coloured. (30°C)

400d TANKI HOOIBERG, 10.2.1949.
(Soon dried up until first rains in July; dry in August 10th; J. VAN ZIJL coll.)

Station number. Locality, date.
Dimensions of water body in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour.

401. TANKI DI CAS ARIBA, Santa Cruz, 30.12.1948.
35 × 30 × ?1½; stagnant; permanent; possibly artificial pond; diorite; diorite detritus, sand and mud; indistinct; turbid, brownish grey.

401a TANKI DI CAS ARIBA, 18.1.1949.
50 × 40 × ?2; as before.

402. CUEBA DI ANDICURI, 150 m E of Boca, 26.8.1949.
?20 × 15 × ?1½; stagnant; permanent; in cave of ?30 × 20 × × 4 m, 5 m below surface (20 m from sea water); limestone on ?diabase; clayish mud and rock; practically none (rather dark); clear, colourless. (surface water sampled; lower layers with higher salinity)

103a Brooklet of ROOI BRINGAMOSA, 18.1.1949.
(10 ×) 3 × ½; variable, often fairly rapidly flowing, with pools; permanent; natural, near springs;
diorite; debris and sand; algae, growth of *Ruppia*; clear, colourless.

403. TANKI DI ROOI KABAAI, SSW of Mira la Mar, 28.12.1948.
12 × 4 × ?1; stagnant; temporary; excavated;
diabase and schists; rock detritus, mud; thin coating of small algae; rather turbid, greenish.

404 Hollow TREE IN ROOI KABAAI, SSW of Seroe Kabaai, 28.12.1948.
1/10 × 1/10 × 1/5; stagnant; temporary; in living *Bursera tomentosa*; (diabase and schists); plant debris; none; rather clear, dark brown.

405 Puddle in ROOI JUDITI, SE of Seroe Kabaai, 28.12.1948.
?1 × 1 × 1/50; stagnant; temporary; small spring;
schists; rock debris and mud, leaf decay of *Coccoloba uvifera*; small algae; rather clear, colourless.

104a Bron di ROOI PRINS, 26.8.1949.
(water vein); percolating; permanent; small spring;
schists and diabase; debris, sand; almost none, under debris; clear, colourless.

104Aa Bron di ROOI PRINS, 26.8.1949. (Plate VI*b*)
(cascade of 25 cm high); very rapidly flowing, (about 1000 l/hour); probably temporary; only few meters from spring;
schists and diabase; rock; thin coating of algae; clear, colourless. (water from 104a)

104Bb Bron di ROOI PRINS, 26.8.1949. (Plate VI*b*)
(8 ×) 2 × ½; almost stagnant, renewing; possibly permanent; below cascade near spring;
schists and diabase; rock, mud and sand, some plant decay; algae; clear, colourless. (water from 104Aa)

Suriname

406. SWAMP at Krepí, NEAR CHARLESBURG, N of Paramaribo, 2.8.1948.
?40 × 25 × 1; stagnant; permanent; dug about 5 years ago, in communication with swamp;
shell bearing sand; sand, some mud and plant decay; algae, *Hydrocotyle, Typha, Heliconia, Cyperus*; rather clear, somewhat bluish.

407 SWAMP AT CHARLESBURG, N of Paramaribo, 2.8.1948.
(swamp); possibly permanent; natural;
shell bearing sand, clayish soil; plant decay; swamp vegetation; rather clear, somewhat coloured. (estimated at 20 mg Cl/l)

408. POND AT ZANDERIJ, about 40 km S of Paramaribo, 3.8.1948.
20 × 20 × $^{2}/_{3}$; stagnant; probably dry for about 2 months a year; dug a couple of years ago;
quartz sand, savannah; sand with a little plant decay; few small algae, *Cyperaceae, Jussieua*; rather clear, slightly greyish.

409. POOL AT ZANDERIJ, about 42 km S of Paramaribo, 3.8.1948.
?8 × 3 × 1; practically stagnant; permanent; pool at source of swampy rivulet;
quartz sand; mud, dead wood and other plant decay of swamp forest; dense growth of *Utricularia* and algae; clear, slightly brownish.

Nevis

500. NELSON'S SPRING, St. Thomas, 28.6.1949. (Plate 16)
?200 × 15 × $1^{1}/_{2}$; stagnant; permanent; natural;
clayish soil, swamp deposits; clay, mud, and plant decay; considerable growth of algae with *Najas*, swamp vegetation, *Cocos*; clear, colourless.

501. JONES' RIVER, at road E of Newcastle, 28.6.1949.
(5 ×) $1^{1}/_{2}$ × $^{1}/_{2}$; almost stagnant pools, narrowly connected by rapidly flowing water; probably permanent; natural, rivulet;
volcanic rock; rock debris and plant decay, some mud; algae; clear, colourless.

502. HOT SPRING OF BATH, S of Charlestown, 28.6.1949.
$^{1}/_{2}$ × $^{1}/_{3}$; rapidly flowing; permanent; natural spring of rivulet, walled in and made more accessible;
weathered volcanic rock, cultivated soil; sandy; algae; clear, colourless. (about 42°C)

Saint Christopher (St. Kitts)

503. WINGFIELD RIVER, 300 m N of bridge of main road, 30.6.1949.
(3 ×) 1 × $^{1}/_{3}$; flowing; permanent; slowly flowing pools, narrowly connected, with cascades up to 30 cm; natural, rivulet;
volcanic rock, semi cultivated soil; rock debris with some sand, detritus and plant decay; thin rock coating of algae (shaded by *Mangifera, Ficus*); clear, colourless.

Station number. Locality, date.
Dimensions of water body in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour.

Sint Eustatius (Statia)

504 Water in BROMELIAD, De Kant of the QUILL, 12.7.1949.
$^1/_{20} \times {}^1/_{20} \times {}^1/_{100}$, many; stagnant; temporary; in axils of leaves; clear, nearly colourless. (polluted)

505. MANAHEGA CISTERN, 100 m E of Gin House, Downtown, 7.7.1949.
$6 \times 2^1/_2 \times {}^1/_3$; stagnant; possibly temporary; collapsed cemented cistern, ruins;
sandy soil; muddy debris; some algae, surface film; somewhat turbid, greenish yellow.

506. MANAHEGA WELL, near Manahega Cistern, 7.7.1949. (Plate IV*a*)
$1 \times {}^2/_3 \times ?^1/_2$; stagnant; permanent; recently constructed, upper part rectangularly cemented, 2 m deep, close to dry cistern;
sandy; rock debris, mud; some coating of algae; almost clear, greenish yellow.

507. TWIN CISTERNS, near Gin House gut, Downtown, 7.7.1949.
$8 \times 2 \times {}^1/_2$; stagnant; possibly permanent; ruins of cemented cisterns (N. one sampled);
sandy soil (at water line); detritus, debris, much plant decay of *Hippomane*; clear, dark greenish yellow.

508. NEW WELL, near Gin House, 7.7.1949.
$1^1/_4 \times 1^1/_4 \times ?1$; stagnant; possibly permanent; artificial, upper part cemented, 4 m deep;
volcanic rock debris, sand; rock debris, mud, decay; some algae; clear, somewhat greenish yellow.

509. GIN HOUSE CISTERN, Downtown, 7.7.1949.
$6 \times 2 \times 1$; stagnant; possibly permanent; covered cemented cistern, $1^1/_2$ m below surface;
volcanic rock debris; masonry, some sand; almost none (nearly dark); clear, colourless.

510. SAMSON WELL, Downtown, 10.7.1949.
$2 \times 2 \times {}^3/_4$; stagnant; probably permanent; artificial, uppermost part cemented, $3^1/_2$ m deep;
volcanic rock debris; debris, mud, plant decay; coating of small algae (shady); clear, slightly greenish yellow.

511. KING'S WELL, westernmost part of Downtown, 13.7.1949.
$2 \times 2 \times ?^1/_2$; stagnant; possibly permanent; artificial, uppermost part cemented, 8 m deep;
volcanic rock debris; debris, mud, plant decay of *Cocos* husks and *Tamarindus*; few small algae; slightly turbid, greyish. (bad smelling)

511A KING'S WELL, trough, 13.7.1949.
$2 \times {}^1/_2 \times {}^1/_{20}$; stagnant; temporary, quickly drying; cemented trough;
volcanic rock debris; masonry; algae; clear, greyish. (probably water from 511)

512. Water among ruins of GOLDEN ROCK, 8.7.1949.
$1 \times 1 \times {}^1/_3$; stagnant; temporary; spherical iron receptacle; (volcanic rock debris); rusty iron, some detritus; some algae; clear, dark greenish yellow. (probably rain water)

513. CISTERN NEAR ZEELANDIA, 8.7.1949.
$3 \times 2 \times {}^1/_2$; stagnant; possibly temporary; old cemented cistern; rock-debris and detritus, pasture; mud, plant decay, chiefly branches; some algae; clear, slightly greenish yellow.

514. WELL OF ZEELANDIA, 8.7.1949. (Plate IV*b*)
$1{}^1/_4 \times 1{}^1/_4 \times ?1$; stagnant; probably permanent; artificial, upper part cemented (with winch), 10 m deep;
volcanic rock debris and detritus, cultivated field (with cattle); rock debris, mud; few small algae; clear, slightly greenish yellow.

515. SPOUT WELL in Wash Gut, near Concordia Bay, 8.7.1949.
$1{}^1/_2 \times 1{}^1/_4 \times {}^1/_2$; stagnant; probably permanent; artificial, upper part cemented, $5{}^1/_2$ m deep;
volcanic rock debris and detritus; debris and mud; few small algae; clear, slightly greenish yellow.

Saba

516. SPRING OF SPRING BAY, 28.7.1949
$2{}^1/_2 \times 1{}^1/_2 \times {}^1/_3$; stagnant; permanent; excavated, upper part cemented and covered a few years ago (entrance ${}^1/_2 \times {}^1/_2$ m), 10–15 m from sea shore, 2 m below surface;
rock debris and sand; sandy debris and very soft mud; none (most of the time dark); clear, colourless.

517. WELL OF SPRING BAY, 28.7.1949.
$2{}^1/_2 \times 2 \times {}^1/_2$; stagnant; probably permanent; excavated, 7 m deep;
rock debris and sand; debris, sand and mud, plant debris, chiefly *Ficus*; very small algae; rather clear, slightly greenish yellow.

518. UPPER MOUNTAIN WATER HOLE, W of Hellsgate, 25.7.1949.
$2 \times 1{}^1/_2 \times {}^3/_4$; stagnant; temporary, often drying in April–May; eroded in solid rock by rivulet after rains;
volcanic rock, greatly weathered; rock, some leaf decay; coating of very small algae; clear, greenish yellow.

519 Water in BROMELIAD, above UPPER RENDEZ-VOUS, 26.7.1949.
${}^1/_{20} \times {}^1/_{20} \times {}^1/_{100}$, many; stagnant; temporary; in axils of *Catopsis*-leaves; clear, greenish brown.

Station number. Locality, date.
Dimensions of water body in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour.

520. BOOBY HILL CISTERN, 50 m above Windwardside, 25.7.1949.
$4 \times 1^1/_2 \times {}^1/_5$; stagnant; temporary; old cistern, falling into ruins, $2^1/_2$ below surface;
volcanic rock debris, cultivated soil; debris and detritus, some small algae (rather shady); clear, colourless.

521 SPRING OF FORT BAY, 100 m W of landing, 21.7.1949.
${}^1/_2 \times {}^1/_2 \times {}^1/_{10}$; overflowing basin (20 l/hour, piped to landing); possibly permanent; covered concrete trough near spring (a few meters from water bearing well of 3 m deep, almost 10 above sea level);
volcanic rock; masonry and some detritus; none (usually dark); clear, colourless. (estimated at 2000–3000 mg/l, pH 8.1)

522 HOT SPRING N of Land Point, 15.3.1950.
small water track; flowing; possibly permanent; natural spring;
volcanic rock; rock detritus, debris; none; clear, colourless. (57°C) (J. H. WESTERMANN coll.)
(Cl′ 2084–2180 mg/l, 102–115 Germ°.; anal. E. D. A. SINDRAM)

Saint Barthélemy (St. Barts)

523 PUDDLE near bridge, S of parsonage AT LORIENT, 3.6.1949.
${}^1/_3 \times {}^1/_{10} \times {}^1/_{50}$; stagnant; temporary; drying ditch; dioritic rock; mud, some rock debris; algae; turbid, greyish.

524. MAR DES PALMIERS, N of road W of Lorient, 3.6.1949.
$2 \times 1^1/_2 \times {}^1/_2$; stagnant; possibly temporary; dug in grove of cocos and palmetto (some 200 m from sea);
sand and rock debris, cultivated soil; sand, some mud, decay of *Coccoloba uvifera*; considerable growth of algae; clear, colourless.

La Fourche (Five Island, Fourchu)

525 FIVE ISLAND WELL, 2.6.1949.
${}^3/_4 \times {}^3/_4 \times {}^1/_2$; stagnant; probably temporary; dug, lately deepened, 2 m below surface (80 m from sea);
volcanic rock debris and weathered soil; mud; almost none; turbid, yellowish brown.

Tintamarre (Flat Island)

526. FLAT ISLAND WELL, at settlement, 20.6.1949.
$2 \times 2 \times ?1$; stagnant; probably permanent; excavated, upper part cemented (with several troughs), 8 m deep;
limestone, detritus; debris and mud; small algae; clear, colourless.

526A Trough of FLAT ISLAND WELL, 20.6.1949.
${}^1/_2 \times {}^1/_2 \times {}^1/_4$; stagnant; temporary; concrete trough near well; (limestone); concrete, some dirt; flakes of algae; clear, somewhat coloured. (water from 526)

Saint Martin (Sint Maarten)

527 PUDDLE on top of MOLLY BEDAY, island, 3.8.1949.
$^1/_5 \times ^1/_{10} \times ^1/_{50}$; stagnant; only after rain; small natural depression in solid rock (on highest point of small islet, 25 m);
andesitic rock; rock, a little sand; very thin coating of small algae; clear, colourless. (estimated at 800–1000 mg Cl/l)

528 FRESH WATER POND of POINT BLANCHE, 17.5.1949.
?100 × 80 × $?^1/_2$; stagnant; possibly rarely dry; natural;
rock detritus with debris of limestone; sandy mud; *Chara*, some *Ruppia*, few small algae; slightly turbid, somewhat greyish.

529 OLD BATTERY CISTERN, SE of Philipsburg, 18.5.1949.
10 × 2 × $^1/_4$; stagnant; temporary (dry in August); old cistern of brick work, 2 m deep;
chiefly limestone debris; rock and much debris with plant decay; dense growth of algae, duck weed; clear, slightly coloured.

530 CRAB HOLE CISTERN, E of Philipsburg, 18.5.1949.
10 × 6 × $^1/_2$; stagnant; possibly permanent; cistern of brick work;
chiefly limestone debris; brick work with much detritus and plant decay, mud; dense growth of *Ruppia*, algae; clear, colourless.

531 Puddle in ROLANDS CANAL Upstreet, S of bridge, 25.5.1949.
5 × 1 × $^1/_{20}$; stagnant; temporary; in old-ditch;
weathered soil with limestone debris; rock detritus with *Echinochloa*, *Cynodon* and *Chloris*; clear, yellowish brown. (estimated at about 1500 mg Cl/l)

532 Puddle in RAMBEAU VALLEY, at main road N of Marigot, 20.5.1949.
10 × $^1/_2$ × $^1/_{10}$; stagnant; possibly temporary; drying rivulet at narrow flood gate;
volcanic rock debris; chiefly mud and dirt; some small algae; turbid, slightly greyish. (28°C, somewhat polluted)

533. YARD WELL of HEYLIGERS, Colombier Valley, 20.5.1949.
$1^1/_2 \times 1^1/_2 \times 1^1/_2$ m; stagnant; permanent; excavated;
weathered rock; debris and mud, plant decay; duck weed and considerable growth of algae; clear, colourless. (28°C)

534 Puddle in head of ravine, COLOMBIER VALLEY, 20.5.1949.
$^1/_5 \times ^1/_{10} \times ^1/_{10}$; stagnant; not permanent; made by removing wet mud and leaf decay;
chiefly dioritic rock; rock debris with mud and decay of chiefly *Terminalia* and *Ficus* (in narrow ravine of about 5 m deep); almost none (between muddy leaf decay); slightly turbid, almost colourless. (26°C)

Station number. Locality, date.
Dimensions of water body in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour.

537. SLOB OF Proeftuin ST. PETER, Cul de Sac, 24.5.1949.
25 × 20 × $^1/_2$; stagnant; carries water 7–8 months a year (day before 10 × 3 × $^1/_2$, rainfall 1 inch); dug 4 years ago (behind Agr. Exp. Station);
weathered soil in cultivated area; clayish or sandy mud; few small algae, *Echinochloa, Paspalum, Stemodia, Cyperus*; turbid, greyish brown. (32°C surface 10 a.m.)

538. DOCTOR'S WELL on Rockland, Cul de Sac, 24.5.1949.
$2^1/_2$ × $2^1/_2$ × ?1; stagnant; permanent; artificial, with stone wall, 2 m deep;
weathered soil, pasture; mud with plant decay, rock debris; considerable growth of algae; clear, colourless.

538A Trough of DOCTOR'S WELL on Rockland, 24.5.1949.
5 × 1 × $^1/_2$; stagnant; temporary; cemented trough;
pasture; masonry, some plant decay; coating and flakes of algae; rather clear, almost colourless. (water from 538)

539 PUDDLE NEAR DOCTOR'S WELL on Rockland, 24.5.1949.
$^1/_{10}$ × $^1/_5$ × $^1/_{100}$; stagnant; possibly temporary; in probably old, artificial depression;
weathered soil; marshy part of pasture, trampled by cattle; few small algae, grasses; slightly turbid, slightly coloured.

540 Water in BROMELIAD, at base OF MESCHRINE HILL, S of Simson Bay bridge, 27.5.1949.
$^1/_{20}$ × $^1/_{20}$ × $^1/_{100}$, several; stagnant; temporary;
in leaf axils of *Tillandsia utriculata*; clear, somewhat coloured. (estimated at 100–300 mg Cl/l)

541 Puddle in DEVIL'S HOLE, SE of Simson Bay bridge, 4.8.1949.
3 × 2 × $^1/_{50}$; stagnant; possibly permanent; in sink hole, 5 m below surface;
limestone; soft, reddish brown, clayish mud; very thin coating of small algae; (about 300 m from shore) slightly turbid, almost colourless. (estimated at 10–14 g Cl/l; pH ?7.9)

542 DEVIL'S HOLE SWAMP, SE of Simson Bay bridge, 4.8.1949.
25 × 15 × 1; stagnant; permanent (tidal movements); in sink hole of at least 40 × 20 m (about 150–200 m from shore);
limestone; mud, plant decay, rock; algae with *Batophora, Avicennia*; turbid, greenish brown.

Anguilla

543. FOREST POINT SALTWELL, 18.6.1949.
$1 \times 1 \times {}^1/_2$; stagnant; permanent; narrowly excavated, $3^1/_2$ m deep;
limestone; rock, debris, some clayish mud; indistinct; clear, colourless.

544. BEDNEY'S SPRING, well near salt pond of Maze Bay, 18.6.1949.
$2 \times 1^1/_2 \times {}^1/_3$; stagnant; permanent; excavated, 1 m below surface;
limestone, detritus; rock debris, soft mud; algae and *Chara*; clear, very slightly yellowish.

545 SPRING at shore of salt pond OF MAZE BAY, 18.6.1949.
$(1 \times) {}^1/_2 \times {}^1/_{20}$; overflowing puddle; possibly occasionally dry; spring (50 m from 544);
rock detritus, limestone; soft mud, rock; some algae, *Chara;* clear, colourless.

Dog Island

546 DOG ISLAND WELL, near N. coast, 17.6.1949.
$2 \times 2 \times ?1$; stagnant; probably permanent; excavated, $^1/_2$ m below surface;
limestone; rock, some mud; almost none; clear, colourless.

New Providence

547 TRENCH AT PALL'S WATERWORKS, 23.8.1949.
$100 \times 1^1/_5 \times 1^1/_5$; almost stagnant; permanent; excavated several years ago (the water is pumped out through iron pipes);
limestone; detritus and rock; thick masses of algae (only the pipes sometimes cleaned), *Utricularia;* clear, colourless.

548 ARCHBOLD'S POND near Nassau, 23.8.1949.
$?200 \times 20 \times ?1^1/_2$; stagnant; permanent; possibly more or less artificial;
garden soil on limestone; mud, plant decay; considerable growth of algae, *Chara*, *Utricularia*, and other phanerogams (many plants from this garden were imported from indo-pacific region); rather clear, somewhat coloured.

South Bimini

549 "FOUNTAIN OF YOUTH", 20.8.1949.
$1 \times 1 \times {}^1/_{100}$; stagnant; temporary; excavated, $1^1/_2$ m deep;
limestone; thick layer of mud, rock debris, leaf decay; some very small algae; rather clear, almost colourless.

MARINE HABITATS

Some general information may be derived from: BØRGESEN 1913–1920, BOEKE 1907, GARTH 1945, HASS 1947, VAN DER HORST 1924, PARR 1937, 1938, RAKESTRAW & SMITH 1937, SMITH 1940, and *Zool. Ergebn.* 1933.

Several data on the fauna and flora of these marine habitats are to be found in *Zool. Ergebn.* 1933, 1935, 1936, 1936 (Cap.), 1937, 1939, 1941, FRÉMY 1941, KOSTER 1943, and VAN OOSTSTROOM 1939.

SYNOPSIS

For the greater part shore habitats belonging to the tidal and/or lower zone all as deep as $1^1/_2$–2 m; other habitats are marked with an asterisk. — "Limestone" means coral limestone, and "no limestone" means andesitic rock, unless indicated otherwise.

Station numbers from
Leeward Group: 1001, 1002, ... 1210, 1211, ... etc.
Windward Group: *1114*, *1115*, *1116*, ... etc.
S. American mainland: (1201), (1202), (1203)
Jamaica and Bahamas: (*1148*), (*1149*), (*1150*), ... etc.

UNPROTECTED COAST

UNPROTECTED COAST; CONTINUOUSLY EXPOSED TO HEAVY SURF

rocky shore
- limestone 1071C
- no limestone. . . . . 1212 (cherts)

rocky beach with sand
- limestone . . . . . 1011 (detached Sargassum), 1016, 1016A (det. Sarg.), 1069 (det. weed), 1071, 1071A, 1017B (det. Sarg.)
  [semi-permanent pool: 1071C]

LARGELY UNPROTECTED COAST; SOMETIMES EXPOSED TO HEAVY SURF

rocky shore
- limestone . . . . . 1059, 1059A, *1115* (sandstone)
- no limestone. *1117*, *1118*, *1119*, *1120*, 1216

rocky beach with sand
- limestone . . . . . 1046, 1059B, 1060 (detached Sargassum), 1061 (det. Sarg.), 1068, (*1152*)
- no limestone. *1121*

[reef: 1059B, 1068; tidal pool: (*1152*)]

PROTECTED OUTER COAST OR OPEN BAYS

SOMEWHAT SHELTERED COAST; EXPOSED TO CONSIDERABLE WAVE ACTION

rocky shore
- limestone 1017, 1018, 1020, 1024, 1049A, 1058A
- no limestone. . . . . 1021 (cherts), *1116*, *1116A*, *1116B*, *1122*, *1125* (tuffs)

rocky beach with sand
limestone 1002, 1018A, 1019, 1020A, 1020B, 1020C*, 1020D, 1023, 1023A, 1027, 1049, 1049B, 1049C*, 1055, 1056, 1056A, 1056B, 1057, 1057A, 1057B, 1058, 1058B, *1142*, 1213*
no limestone. . . . . 1022 (conglomerate), 1022A (congl.), *1125A* (tuffs), 1214 (diabase), 1215 (porfirite)
sand
chiefly coral sand 1001, 1001A, 1019A*, 1056C, 1058C*
buoy 1053, 1054
[reef: 1001, 1001A, 1020D, 1023, 1027, 1049, 1049B, 1049C*, 1056C, 1058, 1058B, 1058C*, *1142*; tidal pool: 1020A, 1021, *1125*; piling: 1029A]

SHELTERED COAST; SOMETIMES EXPOSED TO CONSIDERABLE WAVE ACTION

rocky beach with sand
no limestone. . . . . *1126* (tuffs), *1127* (tuffs), (1203) (schists)
sand
chiefly coral sand . . . . . *1128*, *1128A*, *1128B* (detached weed), *1128C**, (*1149*)*
[tidal pool: *1126*]

OPEN LAGOON OR REEF FLAT

OPEN LAGOON; SOMETIMES EXPOSED TO CONSIDERABLE WAVE ACTION

rocky beach with sand
limestone . . . . . *1114* (sandstone), *1114A* (sandst.)
sand
chiefly coral sand 1007, 1007A, 1009, 1009A, 1037, 1037A, 1067, *1129*
[mangrove: 1007A, 1009, 1009A, 1037A; piling: *1129*]

OPEN LAGOON; EXPOSED TO WEAK WAVE ACTION

rocky beach with sand
limestone
(some rock detritus) 1003, 1004
sand
chiefly coral sand
(no rock detritus) 1210A, 1211A
muddy sand or sandy mud
chiefly coral sand
(no rock detritus) 1005, 1065, 1066, 1210, 1210A, 1211, 1211A*
(some rock detritus) 1004A, (*1151*)
[reef: 1211A*; mangrove 1004A, 1005, 1066, 1210, 1211; piling: *1151*]

REEF FLAT; SOMETIMES EXPOSED TO WAVE ACTION

rocky beach with sand
limestone
(no rock detritus) 1006

ENCLOSED LAGOON

ENCLOSED LAGOON; EXPOSED TO SOME WAVE ACTION

rocky beach with sand
no limestone
(much rock detritus) . . . . . 1034 (diabase), 1070 (diab.)
sand
little or no coral sand
(much rock detritus) 1070A
[mangrove: 1070A]

ENCLOSED LAGOON; USUALLY NOT EXPOSED TO DISTINCT WAVE ACTION

rocky shore
limestone
(much rock detritus) 1036
rocky beach with sand
limestone
(some rock detritus) 1038, 1039, 1039A
(much rock detritus) . . . . . 1008, *1132* (no coral limestone)
muddy sand or sandy mud
chiefly coral sand
(no rock detritus) 1062, *1130*, *1131*, (*1150*), (*1150A*)
(some rock detritus) 1035, 1038A
(much rock detritus) 1028, 1028A
mud
(no rock detritus) 1063, 1064, 1064A
(some rock detritus) 1008A, *1132*
(much rock detritus) 1036A, (*1148*), (1202)
[mangrove: 1008A, 1028A, 1035, 1036A, 1038A, 1062, 1064, *1130*, *1131*, *1132*, (*1150*); piling: (*1148*), (1202)]

POOL, NOT RARELY IN OPEN CONTACT WITH SEA; NOT EXPOSED TO DISTINCT WAVE ACTION

rocky beach with sand
limestone (coral shingle)
(some rock detritus) 1025, 1025A, 1026, 1031, 1032, 1033
sand
chiefly coral sand
(no rock detritus) 1010, 1010A
muddy sand or sandy mud
chiefly coral sand
(some rock detritus) 1217
little or no coral sand
(much rock detritus) . . . . . (1201)
[mangrove: 1010A, 1025A, (1201)]

DESCRIPTION

(Marine habitats)

A capital letter behind the station number indicates a different habitat; an ordinary letter denotes that the same habitat has already been studied before. — Actual intertidal zone, usually about 30 cm, see fig. 1 — "Lower zone" reaching from low water level to approximately $1^1/_2$ m below. All rock consists of coral limestone, unless stated otherwise.

Boca = bay; *laguna, lagoen* = lagoon; *playa, plaja* = beach.

Station number. Locality, date.
Type of bottom and vegetation; level.

Aruba

1001 North of PUNTA BRABOE, W of Oranjestad, 16, 17 & 18.6.1930.
Sandy reef, debris; tidal and lower zone. (This locality is at present occupied by buildings.)

1001A North of PUNTA BRABOE, 18.12.1936.
Sandy reef between *Porites*; lower zone. (This locality has been destroyed recently by dredge work.)

1002 PUNTA BRABOE, 3.1.1949.
Exposed rock with few small algae, sand; tidal and lower zone. (Greatly disturbed by dredge work.)

1003 LAGOEN BOEKOETI (Bucuti), E of Oranjestad, 18.6.1930.
Rocky shore of muddy lagoon with *Thalassia testudinum*, sandy mud; tidal and lower zone.

1003a LAGOEN BOEKOETI, 14.12.1936.
As before; lower zone.

1003b LAGOEN BOEKOETI, 20.12.1936.
As 1003.

1004 LAGOEN BOEKOETI, 29.12.1948. (Plate VII*b*)
As 1003. (Somewhat polluted by oil residue.)

1004A LAGOEN BOEKOETI, 29.12.1948.
On roots of *Rhizophora mucronata* in lagoon with *Thalassia*; tidal and lower zone.

1005 BOEKOETI (Bucuti), N. lagoon side, 25.6.1930.
On roots of *Rhizophora* in lagoon with soft, muddy sand; tidal and lower zone.

1005a BOEKOETI, 17.1.1949.
As before. (Somewhat polluted by oil residue.)

1005b BOEKOETI, 8.2.1949.
On roots of *Rhiz.* in lagoon with *Thal.*, soft, muddy sand; tidal and lower zone.

1006 BOEKOETI, N. sea side, 25.6.1930.
Reef debris with muddy sand, some *Thal.*; tidal zone, with small pools.

1006a BOEKOETI, 17.1.1949.
The same.

Station number. Locality, date.
Type of bottom and vegetation; level.

1007 BOEKOETI, S. point, 17.1.1949.
Debris in muddy sand with *Halimeda* and *Zoanthus*, near *Thal.*; lower zone.

1007A BOEKOETI, 17.1.1949.
On *Rhiz.* in sandy lagoon; tidal and lower zone.

1008 SPAANS LAGOEN, NW. side, 1.1.1949. (Plate VII*a*)
Rocky shore of muddy lagoon with many algae, near *Rhiz.*, tidal and lower zone.

1008A SPAANS LAGOEN, 1.1.1949.
As before, on *Rhiz.*

1009 PLAJA MASTER, near Savaneta, 2.1.1949.
Sandy beach, on *Conocarpus erecta*; tidal zone.

1009A PLAJA MASTER, 2.1.1949.
Sandy shore, on *Rhiz.*; tidal and lower zone.

1010 LAGOEN MASTER, near Savaneta, 2.1.1949.
Shallow pool, 40 × 15 × $^1/_3$ m, between sandy beach on flat limestone and growth of *Rhiz.*, many algae; low-tide and lower zone.

1010A LAGOEN MASTER, 2.1.1949.
As before, on *Rhiz.*; tidal and lower zone.

1011 BOCA PRINS, 28.6 & 3.7.1930.
(On *Sargassum*, cast ashore.)

Curaçao

1016 BOCA GRANDI, 28.4 & 2.5.1930.
Surf swept, rocky beach with sand; tidal and lower zone.

1016A BOCA GRANDI, 2.5.1930.
(On *Sargassum*, cast ashore.)

1017 KNIP BAAI, S. side, 8.1.1949.
Perpendicular rocky cliff; tidal and lower zone.

1018 KNIP BAAI, N. side, 6.2.1949.
Steep rocky cliff; tidal and lower zone.

1018A KNIP BAAI, 6.2.1949.
Rocky shore with sand; tidal zone.

1019 PLAJA DJERIMI, N. corner, 11.12.1948.
Rocky shore with sand; tidal and lower zone.

1019A PLAJA DJERIMI, 29.1.1949.
Sandy bottom with eel grass, loose plants; $2^1/_2$–4 m deep.

1020 BOCA LAGOEN, N. side, 13.11.1948.
Steep stony cliff; tidal and lower zone.

1020A BOCA LAGOEN, 13.11.1948.
Rocky beach with small tidal pools; high- and mid-tide zone.

1020B BOCA LAGOEN, 13.11.1948.
Sandy beach with pebbles; high- and mid-tide zone.

1020C Boca Lagoen, S.side, 27.11.1948.
Sand and rock debris; 2–3 m deep.

1020D Boca Lagoen, S.side, 27.11.1948.
Rocky shore with *Porites*; lower zone.

1021 St. Kruis Baai, S.side, 23, 24 & 26.4.1930.
Rocky shore (cherts) with tidal pools.

1022 Boca Santoe Pretoe, S of St. Kruis Baai, 12.3.1949.
Rocky beach with *Dictyonema*, quartzite pebbles; mid- and low-tide zone.

1022A Boca Santoe Pretoe, 12.3.1949.
Coarse sand with quartzite pebbles; tidal zone.

1023 Plaja Hoeloe (Hulu), S of St. Kruis Baai, 28.10.1948.
Sandy reef, *Acropora cervicornis* and *Porites*; low-tide and lower zone.

1023a Plaja Hoeloe, 19.3.1949.
Sandy reef, debris; low-tide and lower zone.

1023A Plaja Hoeloe, 19.3.1949.
Rocky shore with sand; tidal zone.

1024 South of Plaja Hoeloe, 2.4.1949. (Plate VI *a*)
Stony cliff near sandy reef; tidal zone.

1025 Spaansche Put Baai, 16.2.1949.
Pool, 40 × 20 × 1 m, between rocky coast and porous wall of coral shingle, many algae, muddy sand. (Probably not rarely in communication with the sea.)

1025A Spaansche Put Baai, 16.2.1949.
As before, on *Rhizophora*.

1026 Spaansche Put Baai, Febr. 1949.
Pools between rocky coast and porous wall of coral shingle, as 1025. (J. G. de Jong coll.)

1027 Porto Marie Baai, 15 & 17.4.1930.
Rocky shore, sandy reef, *Acropora cerv.*; tidal and lower zone.

1028 Piscadera Baai, near Enoch, 2.2.1949.
Rock debris and sand with soft, blackish mud, near *Rhiz.*; low-tide and lower zone.

1028A Piscadera Baai, 2.2.1949.
As before, on *Rhiz.*; tidal and lower zone.

1029 Piscadera Baai, swimming pool, 29.1.1949.
Rocky shore with sand; tidal and lower zone.

1029A Piscadera Baai, 29.1.1949.
As before, on fence and piles.

1030 Parasasa, near Piscadera Baai, 1.2.1949.
Rocky beach with small pools; mid-tide zone.

1031 Zaquito, SE.corner, 1.2.1949.
Pool, 5 × 5 × $^1/_2$ m, in porous wall of coral shingle. (Probably not rarely in communication with the lagoon.)

Station number. Locality, date.
Type of bottom and vegetation; level.

1032 RIFWATER, S.shore, 1.8.1932.
Pools in porous wall of coral shingle. (As before) (Brother M. REALINO JANSSEN coll.)

1033 RIFWATER, S.shore, Febr. 1949.
As 1032. (J. G. DE JONG coll.)

1034 SCHOTTEGAT, Parera near Pasanggrahan, 22.8.1948.
Rocky shore of diabase, coarse sand with some mud, remains of *Thalassia*, masses of green thread algae. (Polluted by oil residue.)

1035 SPAANSE WATER, Kabrietenbaai, 9.12.1930.
On *Rhiz.*, in muddy, land locked bay; tidal and lower zone.

1036 SPAANSE WATER, New Haven, landing, 10.4.1949.
On and between rock fragments in very muddy lagoon; tidal and lower zone.

1036a SPAANSE WATER, 5.2.1949.
The same.

1036A SPAANSE WATER, New Haven, S of landing, 10.4.1949.
On *Rhiz.* in very muddy lagoon; tidal and lower zone.

1037 SPAANSE BAAI, N.end of beach, 21.4.1949.
Sandy beach near rock cliff; tidal zone.

1037A SPAANSE BAAI, 21.4.1949.
Sandy beach, on *Rhiz.*; tidal and lower zone.

1038 FUIK BAAI, Duitse Bad, 2.3.1949.
Rocky shore of muddy lagoon, sandy mud with some *Thal.*, near *Rhiz.*; tidal and lower zone.

1038a FUIK BAAI, 17.4.1949.
The same.

1038A FUIK BAAI, 2.3.1949.
As 1038, on *Rhiz.*

1038Aa FUIK BAAI, 17.4.1949.
The same.

1039 FUIK BAAI, SE of Newport Bath, 20.11.1948.
Rocky shore of muddy lagoon, muddy sand with some *Thal.*; tidal and lower zone.

1039A FUIK BAAI, 20.11.1948.
Sandy mud with rock debris, few *Thal.*, *Sargassum*; lower zone.

Klein Curaçao

1046 WESTERN SHORE, 1.10.1948.
Sandy beach with some rock, much *Sargassum*; tidal zone.

Klein Bonaire

1049 East coast at LANDING, 10.9.1930.
Sandy shore with reef debris; tidal and lower zone.

1049a At LANDING, 17.10 & 8.11.1930.
The same.

1049A Near LANDING, 13.9.1948.
Rocky shore at sandy beach; tidal zone.

1049B At LANDING, 13.9.1948.
Reef debris on sandy beach; tidal and lower zone.

1049C Near LANDING, 13.9.1948.
Sandy reef; 1–3 m deep.

Bonaire

1053 KRALENDIJK ROADSTEAD, 21.9.1948.
Two covered buoys, cleaned 20 months before; 0–$1^1/_2$ m deep.

1054 KRALENDIJK ROADSTEAD, 21.9.1948.
Two wooden buoys, cleaned 4 years before; 0–$1^1/_2$ m deep.

1055 PALOE LECHI, overflow of Salinja, 4.9.1948.
Rocky beach with coral debris and muddy sand; low-tide and lower zone.

1055A PALOE LECHI, overflow of Salinja, 22 & 28.8.1930.
Muddy pool, 4 × 3 × $^3/_4$ m, in porous wall of coral shingle. (Probably not rarely in communication with the sea.)

1055Aa PALOE LECHI, 29.8.1932.
Probably the same. (H. B. C. SCHOTBORGH coll.)

1056 PALOE LECHI, S of Salinja, 4.9.1948.
Rocky beach; upper and high-tide zone.

1056A PALOE LECHI, 4.9.1948.
Rocky beach; mid-tide zone.

1056Aa PALOE LECHI, 24.2.1949.
Rocky beach with small tidal pools; mid-tide zone.

1056B PALOE LECHI, 4.9.1948.
Rocky beach; low-tide zone.

1056Ba PALOE LECHI, 27.2.1949.
The same.

1056C PALOE LECHI, 4.9.1948.
Sandy reef; 1–$2^1/_2$ m deep.

1056Ca PALOE LECHI, 30.8.1948.
The same.

1057 KRALENDIJK, near Pasanggrahan, 3 & 5.9.1930.
Rocky beach, tidal zone.

1057a KRALENDIJK, 14, 15, 16, 19 & 20.9.1930.
The same.

1057b KRALENDIJK, 10 & 26.10.1930.
The same.

1057A KRALENDIJK, 20.9.1948.
Rocky beach with coral debris and sand; upper and high-tide zone.

Station number. Locality, date.
Type of bottom and vegetation; level.

1057B KRALENDIJK, 20.9.1948.
Rocky beach; mid-tide zone.

1057C KRALENDIJK, 20.9.1948.
Rocky beach with some sand; low-tide and lower zone.

1058 Near DE HOOP, S of Kralendijk, 11, 12, 16 & 17.5.1930.
Rocky cliff and sandy reef; tidal and lower zone.

1058a DE HOOP, 12, 30 & 31.10.1930.
The same.

1058b DE HOOP, 6 & 11.11.1930.
The same.

1058A DE HOOP, 10.9.1948.
Rocky cliff with debris; upper and high-tide zone.

1058B DE HOOP, 10.9.1948.
Rocky cliff and sandy reef; mid-, low-tide and lower zone.

1058C DE HOOP, 10.9.1948.
Sandy reef; 1–3 m deep.

1059 North of PUNT VIERKANT, 9.9.1948.
Rocky shore with debris; upper and high-tide zone.

1059A PUNT VIERKANT, 9.9.1948.
Rocky shore with debris, *Turbinaria* and *Sargassum*; mid- and low-tide zone.

1059B PUNT VIERKANT, 9.9.1948.
Sandy reef; 1–2 m deep.

1060 ORANJEPAN, 15.5.1930.
(On *Sargassum*, cast ashore).

1060a ORANJEPAN, 7.9.1930.
(The same.)

1061 ZUIDPUNT, 27.10.1930.
(The same.)

1062 LAC, SOEREBON, 26.10.1930.
On *Rhizophora* in lagoon with *Thalassia*, sandy mud; tidal and lower zone.

1063 LAC, W of RANCHO island, 26.10.1930.
Shallow mud flat; low-tide and lower zone.

1064 LAC, POEJITO, 12, 16 & 19.10.1930.
On *Rhiz.* in muddy lagoon; tidal and lower zone.

1064a LAC, POEJITO, 18.11.1930.
The same.

1064b LAC, POEJITO, 17.9.1948.
The same.

1064A LAC, POEJITO, 12 & 19.10.1930.
Muddy lagoon with *Thal.*; lower zone.

1064Aa LAC, POEJITO, 18.11.1930.
The same.

1064Ab LAC, POEJITO, 17.9.1948.
The same.

1065 LAC, entrance to POEJITO, 17.9.1948.
Mudflat with *Halimeda* and *Thal.*; lower zone.

1066 LAC, NE.shore of CAY, 1.9.1948.
Shallow part of muddy lagoon with *Thal.*, on *Avicennia nitida*; low-tide and lower zone.

1066a LAC, CAY, 25.2.1949.
Muddy lagoon with *Thal.*, on *Rhiz.* and *Avic.*; lower zone.

1066b LAC, CAY, 19.3.1937.
Shallow part of muddy lagoon with *Rhiz.* and *Avic.*; tidal zone.

1067 LAC, near E.point of CAY, 17.9.1948.
Sandflat with *Thal.*; $1^1/_2$–2 m deep.

1068 LAC, BOCA, behind reef, 5, 9 & 26.10.1930.
Sandy reef with debris, subject to continuous and strong wave action; 1–2 m deep.

1068a LAC, BOCA, 1.10.1948.
The same.

1069 BOCA WASHIKEMBA, 16.5.1930.
(On sea weed, cast ashore.)

1070 LAGOEN, SE.corner, 14.9.1948.
Sandy shore with diabase rock; high-tide zone.

1070A LAGOEN, 28.10 & 2.11.1930.
On *Rhiz.* in muddy sand; low-tide and lower zone.

1070Aa LAGOEN, 14.9.1948.
On *Rhiz.*, and in pool between mangroves and shore, with diabase rock, with some mud; low tide and lower zone.

1071 BOCA ONIMA, 19.9.1948.
Rocky shore in heavy surf; mid- and high-tide zone.

1071A BOCA ONIMA, 19.9.1948.
Rocky beach in heavy surf, sandy debris, with *Sargassum*; low-tide and lower zone.

1071B BOCA ONIMA, 19.9.1948.
(On *Sarg.* cast ashore.)

1071Ba BOCA ONIMA, 19.5.1930.
The same.

1071C Near BOCA ONIMA, 19.9.1948.
Rock pools, $2 \times 1 \times {}^1/_2$ m, on terrace, filled only by the spray, with some algae.

Las Aves

1210 AVE DE BARLOVENTO, SW.shore, 27.7.1936.
Muddy sand with *Thalassia*, on *Rhizophora*; tidal and lower zone.

1210A AVE DE BARLOVENTO, 27.7.1936.
Sandy reef debris with *Thal.*; lower zone.

Station number. Locality, date.
Type of bottom and vegetation; level.

Tortuga

1211 SOUTHWESTERN COAST OF TORTUGA, 1.8.1936.
Sandy debris, and muddy sand with *Thalassia*, on *Rhizophora*; tidal and lower zone.

1211A SOUTHWESTERN COAST, 1.8.1936.
Sandy reef between *Acropora*; 4 m deep.

Centinela

1212 SOUTHWESTERN SHORE OF CENTINELA, 31.7.1936.
Rocky shore in heavy surf, cherts; tidal zone.

Blanquilla

1213 PLAYA DEL JAQUE, 22.7.1936.
Sandy debris of igneous rock; 2–4 m deep.

Los Frailes

1214 ISLA (Puerto) REAL, SW.shore, 18.6.1936.
Sandy debris of igneous rock; 3–4 m deep.

1215 LA PECHA, SW.shore, 19.6.1936.
Sandy debris of igneous rock; 1–2 m deep.

Margarita

1216 PUNTA MOSQUITO, 4.6.1936.
Rocky shore, shales and sandstone; tidal and lower zone.

1217 LAGUNA DE LAS MARITAS, near Punta Mosquito, 4.6.1936.
Shallow, muddy pool between sand bar and growth of *Rhizophora*.

South American mainland

1201 PUERTO LÓPEZ, La Goajira (Colombia), 28.1.1937.
Muddy shore of large lagoon, on *Rhizophora*; tidal zone.

1202 GUANTA, near Barcelona (Venezuela), 15.8.1936.
Wooden wharf piling, mud; tidal and lower zone.

1203 PUERTO SANTO, near Carúpano (Venezuela), 12.6.1936.
Sandy debris of shales; 1–2 m deep.

Islote Aves (Bird Island)

1114 Northern LAGOON OF ISLOTE AVES, 12.5.1949.
Sandy shore with some coral debris and coral sandstone; tidal zone.

1114A LAGOON OF ISLOTE AVES, 12.5.1949.
Sandy coral sandstone and debris; lower zone.

1115 NORTHERN REEF OF ISLOTE AVES, 12.5.1949.
Sandstone flat; tidal zone.

Sint Eustatius (Statia)

1116 Southern part of GALLOWS BAY, 15.7.1949.
Rocky beach, andesite, with pebbles; high- and mid-tide zone.

1116A GALLOWS BAY, 15.7.1949.
Rocky beach; tidal zone.

1116B GALLOWS BAY, 15.7.1949.
Rocky beach; 1–2 m deep.

1117 DOWNTOWN, near Billy Gut, 13.7.1949.
Sandy shore, on andesite rock; tidal zone.

1118 BILLY GUT, near Downtown, 13.7.1949.
Sandy shore, on andesite rock; lower zone.

1119 South of TUMBLE DOWN DICK BAY, 10.7.1949.
Rocky andesite shore with magnetite sand; mid- and low-tide zone.

Saba

1120 West of FORT BAY, 21.7.1949. (Plate VIII*a*)
Rocky coast, andesite; tidal and lower zone.

Saint Barthélemy (St. Barts)

1121 South of PUBLIC, near Gustavia, 4.6.1949.
Rocky shore, andesite, debris with sand; tidal zone.

La Fourche (Five Island, Fourchu)

1122 FIVE ISLAND BAY, NE.shore, 2.6.1949.
Rocky shore, andesite debris; tidal and lower zone.

Saint Martin (Sint Maarten)

1125 GREAT BAY, Point Blanche Bay, 26.6.1949.
Rocky shore, tuffs and tertiary limestone; high- and mid-tide zone, tide pools.

1125A GREAT BAY, 26.6.1949.
As before, with some sand; low-tide and lower zone.

1126 GREAT BAY, E.shore, 11.6.1949. (Plate VIII*b*)
Rocky beach, debris, few *Thalassia*; tide pools, mid- and low-tide zone.

1127 GREAT BAY, NE.shore, 16.5.1949.
Rocky beach, debris with muddy sand, *Thal.*; low-tide and lower zone.

1128 GREAT BAY, NE.shore, 16.5.1949.
Sand beach; tidal zone.

1128a GREAT BAY, 5.8.1949.
Sand beach; high-tide zone.

1128A GREAT BAY, 26.5.1949.
Wooden wreck on sand beach; tidal and lower zone. (pH 8.7)

1128B GREAT BAY, 26.6.1949.
(On detached *Ulva*, and other weeds on sand shore); $^3/_4$–$1^1/_2$ m deep.

1128C GREAT BAY, 14.6.1949.
Sand beach with *Thal.*; $1^1/_2$–$2^1/_2$ m deep.

Station number. Locality, date
Type of bottom and vegetation; level.

1129 SIMSON BAY BRIDGE, 4.8.1949.
On wooden piles in sand of lagoon entrance with *Thal.*, strong tidal flow; tidal and lower zone.

1130 SIMSON BAY LAGOON, outlet, 27.5.1949.
Sandy lagoon with *Rhizophora* and *Thal.*, tidal flow; tidal and lower zone.

1131 SIMSON BAY LAGOON, W.shore of LITTLE KEY, 2.8.1949.
Muddy sand with some *Thal.* and *Batophora*, on *Rhiz.*; tidal and lower zone.

1132 SIMSON BAY LAGOON, W.shore of FLAMINGO POND, 8.6.1949.
Muddy lagoon with rocky shore, with *Bat.*, on *Rhiz.* and *Avicennia*; tidal and lower zone. (pH 8.6)

1132A SIMSON BAY LAGOON, FLAMINGO POND, 8.6.1949.
Muddy lagoon with rocky shore, with small *Thal.* and *Bat.*; low-tide and lower zone.

Anguilla

1142 North of SANDY GROUND, on N.coast, 19.6.1949.
Rocky beach with sandy reef; tidal and lower zone.

Jamaica

1148 KINGSTON HARBOUR, Myrtle Bank landing, 15.8.1949.
Wooden and concrete piles, mud; tidal and lower zone.

New Providence

1149 Between HOG ISLAND AND ATHOL ISLAND, 16.8.1949.
Sand with *Thalassia*; 2–3 m deep.

Bimini

1150 Northern lagoon of SOUTH BIMINI, 17.8.1949.
Muddy lagoon with *Thalassia*, on *Rhizophora*; tidal and lower zone.

1150A SOUTH BIMINI, 17.8.1949.
Sandy mud with *Thal.*; tidal and lower zone.

1151 Laboratory Dock at NORTH BIMINI, 20.8.1949.
Wooden piles in sandy mud with *Thal.*; tidal and lower zone.

1152 Entrance Point at NORTH BIMINI, W.shore, 18.8.1949.
Rocky beach with sand; rock pools, tidal zone.

SALT POND HABITATS

Some general information is given in *Zool. Ergebn.* 1933.

Several data on the fauna and flora are to be found in *Zool. Ergebn.* 1933, 1936, 1939, FRÉMY 1941, and KOSTER 1943.

SYNOPSIS

Parts of bays, salt flats or marine pools, separated from the sea by a porous wall of coral and/or rock debris and/or sand, often turned into salt pans. — "Very weak brine" means 25–50 g Cl/l, "weak" 50–80 g, "moderately strong" 80–110 g, "strong" 110–170 g and "very strong" more than 170 g Cl/l.

Station numbers from
Leeward Group: 1012, 1013, 1014, ... etc.
Windward Group: *1122*, *1123*, *1133*, ... etc.

POOL

percolating water
(sea water) . . . . . 1025, 1026, 1031, 1032, 1033 1087, 1088, *1144* (compare: 1217)
(ground water). . . . . *1134* (compare: 530, 541, 542)
stagnant water
salinity lower than sea water . . . . . 1047 (compare: 63, 528)
salinity about equal to sea water 1100
very weak brine 1013, *1122*
weak brine 1072
strong brine 1081
very strong brine 1048

POND

percolating water
(sea water) 1078, 1097, *1139*
(ground water). . . . . (compare: 545)
stagnant water
salinity lower than sea water . . . . . 1013, 1015 (compare: 382)
salinity about equal to sea water 1014
very weak brine 1012a, 1073d, 1089, 1091, *1133*
weak brine 1073a–c, 1074, 1090, 1094
moderately strong brine 1098, *1140*, *1147*
strong brine 1075, 1076, *1143*
very strong brine 1077, *1123*, *1141*

LAKE

flowing water
(sea water) 1083, 1084, 1085, 1086, 1103, 1104, 1105
(ground water). 1106, 1106A
percolating water
(sea water) 1050, 1050A, 1095, 1096, 1099, 1101, 1102
(ground water). . . . . 1044 (compare: 385, 386)
stagnant water
weak brine 1051, 1093, *1145*
moderately strong brine 1052, 1107, *1137*, *1138*, *1146*
strong brine 1042, 1080, 1092, 1109, 1135, 1136
very strong brine 1040, 1041, 1043
[active or only recently abandoned salt pan: 1040, 1041, 1043, 1077, 1082, *1141*, *1146*]

WATER ANALYSES

OF SALT POND HABITATS

Samples collected in 1949 were studied by F. W. KLEVE, Aruba. The pH has been determined in the field with the colorimetric method of Czenski. — Water indicated by a station number in italics may be considered as representing a salt lake habitat of a more or less constant character.

Station:	*Locality*:	*Date*	*Cl' g/l*	*pH*
	Aruba			
1012a	Salinja Palm Beach	19. 1.1949	31	9.0
1013	Salinja Balashi	15. 1.1949	45	–
1014	Salinja Master, W	2. 1.1949	24	–
1015	Salinja Master, E	2. 1.1949	6	–
	Curaçao			
1040	Salinja Santa Marta	29. 8.1949	185	5.7
1041	Salinja Santa Marta	29. 8.1949	181	–
1042	Salinja Santa Marta	29. 8.1949	156	8.8
1043	Salinja Santa María	29. 8.1949	190	5.4
1044	Salinja Santa Maria	29. 8.1949	63	8.4
	Klein Curaçao			
1047	Salty pool	1.10.1948	18	–
1048	Salt pool	1.10.1948	172	–
	Klein Bonaire			
1050	Salinja Klein Bonaire	9. 6.1930	39	–
1050c	Salinja Klein Bonaire	2. 9.1932	87	–
1051	Salinja Klein Bonaire	1. 9.1948	76	9.2
1052	Salinja Klein Bonaire	1. 9.1948	81	5.0
	Bonaire			
1072	Salinja Paloe Lechi	24. 2.1949	93	–
1072a	Salinja Paloe Lechi	2. 9.1949	42	–
s.n.	Salinja Paloe Lechi	24. 2.1949	145	–
1073	Salinja Martinus	7. 6.1930	72	–
1073a	Salinja Martinus	25. 8.1930	75	–
1073c	Salinja Martinus	29. 8.1932	66	–
1073d	Salinja Martinus	2. 9.1949	37	?8.4
1074	Salinja Martinus	27. 2.1949	79	–
s.n.	Salinja Martinus	25. 3.1949	?60	–
1076	Blauwe Pan	1. 9.1949	120	?8.7
1077	Blauwe Pan	1. 9.1949	183	5.2
1078	Blauwe Pan	1. 9.1949	40	9.0
1080a	Pekelmeer	29. 8.1932	110	–
1081	Witte Pan	7. 9.1930	130	–

Station:	*Locality*:	*Date*	*Cl' g/l*	*pH*
1083a	Pekelmeer	1. 9.1949	47	–
1083b	Pekelmeer	1. 9.1949	21	7.9
1085	Pekelmeer	29. 8.1932	26	–
1086	Pekelmeer	1. 9.1949	21½	8.0
1088	Oranje Pan	29. 8.1932	32	–
1090	Salinja Plenchi	1. 9.1932	54	–
1091	Salinja Plenchi	26. 3.1937	42	–
1092	Salinja Flambaai	8. 6.1930	120	–
1093	Salinja Flambaai	1. 9.1932	93	–
1094	Salinja di Lac	25. 2.1949	53	8.7
1096	Salinja Bartool	30. 8.1932	38	–
1098	Salinja Foensjie	30. 8.1932	86	–
1099a	Salinja Slagbaai	3. 8.1932	28	–
1100	Salinja Slagbaai	2. 6.1930	23	–
1101a	Salinja Tam	30. 8.1932	54	–
1102	Goto, Lagoen	22. 2.1949	72	8.5
1103a	Goto, Lagoen	30. 8.1932	33	–
1106A	Goto, Lagoen	2. 9.1949	8.2	9.0
1107	Goto, Lagoen	2. 9.1949	101	8.5
1108	Goto, Salinja Grandi	2. 9.1949	98	8.5
1109	Goto, Salinja Grandi	27. 5.1930	115	–
1109a	Goto, Salinja Grandi	26. 8.1930	110	–
1109b	Goto, Salinja Grandi	30. 8.1932	111	–
s.n.	Goto, Salinja Grandi	25. 3.1949	115	–
	St. Barthélemy			
1122	Grande Saline	3. 6.1949	34	–
1123	Grande Saline	3. 6.1949	183	6.0
	St. Martin			
1133	Atwell's Pond	17. 5.1949	31	8.8
1134	Fish Nursery	19. 5.1949	46	8.6
1135	Great Saltpond	19. 5.1949	158	7.3
1136	Great Saltpond	5.12.1932	130	–
1137	Great Saltpond	5.12.1932	100	–
1138	Great Saltpond	5.12.1952	94	–
1139	Pond Fort Amsterdam	24. 7.1949	37	?8.6
1140	Saline de Grande Case	20. 5.1949	87	8.7
1141	Saline de Grande Case	20. 5.1949	179	6.0
	Anguilla			
1143	Saltpond Maze Bay	18. 6.1949	114	8.7
1144	Saltpond Sandy Ground	16. 6.1949	46	9.2
1145	Saltpond Sandy Ground	16. 6.1949	50	8.7
1146	Saltpond Sandy Ground	16. 6.1949	81	?8.4
	Dog Island			
1147	Saltpond	17. 6.1949	86	?9.2

DESCRIPTION
(Salt pond habitats)

An ordinary letter behind the station number indicates that the same habitat has already been studied before. Salinities on p. 70–71. — All habitats are permanent unless stated otherwise.

Station number. Locality, date.
Dimensions of water body in m; origin; bottom and vegetation; turbidity and colour.

Aruba

1012 SALINJA OF San José, PALM BEACH, 3.1.1949.
?100 × 50 × $^1/_2$; temporary, on low limestone plateau near coast; muddy, with tufa crusts, much *Ruppia*; turbid, greyish. (estimated at about 15 g Cl/l)

1012a SALINJA OF PALM BEACH, 19.1.1949.
?20 × 15 × $^1/_4$; as before, overgrown with *Ruppia*; turbid, greyish. (28°C at 3 p.m.)

1013 SALINJA BALASHI, 15.1.1949.
10 × 5 × $^1/_3$; temporary, remnant of larger waterbody on salty mud flat; mud, some *Ruppia*; turbid.

1014 SALINJA MASTER (W), W of Savaneta, 2.1.1949.
50 × 35 × $^2/_3$; abandoned salt pan on sandy shore, possibly not permanent; muddy, with some pieces of limestone; turbid, greyish brown.

1015 SALINJA MASTER (E), W of Savaneta, 2.1.1949.
40 × 35 × $^2/_3$; abandoned salt pan, next to 1014; muddy, with pieces of limestone, with much *Ruppia* and *Cladophora*; turbid, brownish.

Curaçao

1040 SALINJA SANTA MARTA, NW.corner, St. Nicolaas, 29.8.1949.
120 × 80 × $^1/_3$; salt pan in exploitation on shore of salt lake; diabase detritus, with some salt deposits; clear, slightly reddish.

1041 SALINJA SANTA MARTA, NW.corner, 29.8.1949.
As before, next to 1040; slightly reddish.

1042 SALINJA SANTA MARTA, NW.corner, 29.8.1949.
100 × 80 × $^1/_3$; abandoned salt pan on shore of salt lake; diabase detritus, brownish mud and some coral debris; turbid.

1043 SALINJA SANTA MARÍA, NW.corner, 29.8.1949.
100 × 30 × $^1/_{10}$; salt pan on shore of salt lake; detritus of sandstone and shales, with some salt; turbid.

1044 SALINJA SANTA MARÍA, NW.corner, 29.8.1949.
50 × 30 × $^1/_4$; abandoned salt pan, next to 1043; turbid.

1045 SALINJA SANTA MARÍA, NW.corner, 29.8.1949.
?1000 × 300 × ?2?; shore of salt lake, next to 1043, exposed to slight wave action, with some salt; turbid. (pH 5.3)

Klein Curaçao

1047 SALTY POOL N of lighthouse ON KLEIN CURAÇAO, 1.10.1948
8 × 3 × $^{2}/_{3}$, part of larger water body; in emptied phosphate pocket on low limestone plateau (60 m SE of 387); muddy, considerable growth of algae; clear, colourless.

1048 SALT POOL near W.coast, 1.10.1948.
15 × 10 × $^{1}/_{2}$; behind sand beach; reddish.

Klein Bonaire

1050 SALINJA KLEIN BONAIRE, along S.shore, near wall, 9.6.1930. (Plate V*b*)
800 × 200 × $1^{1}/_{4}$; behind broad but porous wall of coral debris (with several small springs of brackish water from limestone plateau at land side); exposed to slight wave action; sandy mud under organic tufa deposits, with blue algae on limestone and encrusting dead wood; greenish (somewhat viscuous by algae in suspension). (32°C)

1050a SALINJA, 10.9.1930.
750 × 200 × $1^{1}/_{4}$; as before, algae with *Batophora;* greenish (somewhat viscuous). (estimated at 40–50 g Cl/l)

1050b SALINJA, 27.11.1930.
The same.

1050c SALINJA, 2.9.1932.
Probably about the same. (H. B. C. SCHOTBORGH coll.)

1051 SALINJA, land side, 1.9.1948.
As 1050, but near abandoned salt pan; tufa crusts and mucous algae on sandy mud and limestone fragments; yellowish brown (viscuous by algae in suspension).

1052 SALINJA, land side, 1.9.1948.
30 × 30 × $^{1}/_{5}$; abandoned salt pan, next to 1051; thick, elastic layers of blue algae on muddy bottom, with some organic limestone; reddish.

Bonaire

1072 SALINJA PALOE LECHI, near overflow, 24.2.1949.
30 × 20 × $^{1}/_{2}$; behind cemented part of shingle wall, remnant of larger water body; muddy, with *Enteromorpha.*

1072a SALINJA PALOE LECHI, 2.9.1949.
150 × 20 × 1; as before; clear, practically colourless.

1073 SALINJA MARTINUS, S of Kralendijk, NE.shore, 7.6.1930.
300 × 25 × $2^{1}/_{4}$; behind broad wall of coral shingle and low limestone plateau (land side with a few *Conocarpus* and a single *Rhizophora* near small springs of brackish water); very muddy, below poor *Rhiz.*, some small algae on wood; rather turbid, somewhat coloured. (29°C at 8 a.m.)

1073a SALINJA MARTINUS, 25.8.1930.
250 × 25 × 2; as before, near *Con.* (34°C)

1073b SALINJA MARTINUS, 31.10.1930.
About the same.

1073c SALINJA MARTINUS, 29.8.1932.
Probably the same. (H. B. C. SCHOTBORGH coll.)

1073d SALINJA MARTINUS, 2.9.1949.
Same locality, near *Con.*; turbid, yellowish brown (slightly viscuous).

Station number. Locality, date.
Dimensions of water body in m; origin; bottom and vegetation; turbidity and colour.

1074 SALINJA MARTINUS, S. corner, 27.2.1949.
Same salt pond, at sea side; very muddy, a few small algae; rather turbid, slightly yellowish brown.

1075 BLAUWE PAN (Salinja Abau), near wall, 1.9.1949.
80 × 40 × ?$^1/_2$; abandoned salt pan behind broad wall of coral debris on very low limestone plateau (strikingly brown or even blackish in colour); muddy; rather turbid, brownish (somewhat viscuous). (est. about 120 g Cl/l, pH 8.2–8.3)

1076 BLAUWE PAN, near wall, 1.9.1949.
100 × 40 × ?$^1/_2$; abandoned salt pan, next to 1075 (strikingly brownish yellow in colour); muddy; rather turbid, brownish yellow (somewhat viscuous). (38°C or more)

1077 BLAUWE PAN, 1.9.1949.
80 × 80 × $^1/_4$; salt pan, next to 1076 (strikingly reddish in colour); salt deposits; turbid, reddish.

1078 BLAUWE PAN, 1.9.1949.
2 × 2 × $^1/_2$; seepage of sea water in 1077, dammed; mud and some coral shingle; algae; dirty greyish brown. (35°C)

1080 PEKELMEER, N of Witte Pan, 7.9.1930.
5000 × 1000 × ?1–1$^1/_2$; shore of salt lake on very low limestone plateau behind broad but porous wall of coral debris (exposed to slight wave action); greyish mud; rather clear, reddish. (?36°C)

1080a PEKELMEER, 29.8.1932
Probably about the same. (H. B. C. SCHOTBORGH coll.)

1081 WITTE PAN (Cabajé), near wall, 7.9.1930.
15 × 10 × $^1/_2$; between wall and salt pan in same salt lake; muddy; clear, very slightly reddish .(34°C)

1082 WITTE PAN, 7.9.1930.
?40 × 20 × $^1/_4$; salt pan near 1081, with some less concentrated brine percolating through mud below salt crust; water clear, almost colourless. (est. 170–190 g Cl/l)

1083 PEKELMEER, SW of Witte Pan, 7.9.1930.
Part of great salt lake, near wall with percolating sea water, not far from 1082, with many algae; water clear, colourless. (est. 30–50 g Cl/l)

1083a PEKELMEER, 29.8.1932.
Probably the same. (H. B. C. SCHOTBORGH coll.)

1083b PEKELMEER, 200 m S of Witte Pan, 1.9.1949.
Flowing sea water, percolating through wall; between coral shingle and limestone rock, with *Enteromorpha*; clear, colourless.

1084 PEKELMEER, N of Oranje Pan, 7.9.1930.
Flowing sea water, percolating through base of wall; limestone with algae; clear, colourless. (est. 24–27 g Cl/l)

1084a PEKELMEER, N of Oranje Pan, 3.12.1930.
About the same.

1085 PEKELMEER, N of Oranje Pan, 29.8.1932.
Probably the same. (H. B. C. SCHOTBORGH coll.)

1086 PEKELMEER, 500 m N of Oranje Pan, at wall, 1.9.1932.
?40 × $^1/_4$–10 × $^1/_{10}$–$^1/_2$ flowing; sea water percolating through base of wall; rock debris, some algae; clear, colourless.

1087 ORANJE PAN (Pedro Kely), near wall, 27.10.1930.
10 × 8 × $^1/_{10}$; pool behind porous wall; muddy, some algae; water rather clear and colourless. (est. 30–35 g Cl/l)

1088 ORANJE PAN, near wall, 29.8.1932.
Probably about the same. (H. B. C. SCHOTBORGH coll.)

1089 SALINJA PLENCHI, SW.shore, 3.12.1930.
?400 × 200 × ?$^1/_2$; on very low limestone plateau, separated from the sea by a porous wall; tufa crusts on whitish clay, some *Batophora*; clear, colourless. (35°C) (est. at 25–30 g Cl/l)

1090 SALINJA PLENCHI, 1.9.1932.
Probably same locality. (H. B. C. SCHOTBORGH coll.)

1091 SALINJA PLENCHI, SW.shore, 26.3.1937.
As 1089, some *Bat.*

1092 SALINJA FLAMBAAI, S.shore, 8.6.1930.
?300 × 300 × ?1; on very low limestone plateau behind wall of coral debris; muddy; rather clear, almost colourless.

1093 SALINJA FLAMBAAI, S.shore, 1.9.1932.
Probably the same. (H. B. C. SCHOTBORGH coll.)

1094 SALINJA DI LAC, NE of Cay, 25.2.1949.
?100 × 50 × ?$^1/_2$; abandoned salt pan, probably rarely in communication with sea, on sandy mud flat with some limestone; mud, some *Batophora*. (30°C at 8 a.m.)

1095 SALINJA BARTOOL, at wall, 9.9.1930.
800 × 200 × ?4?; behind porous wall of coral debris; on and between pieces of limestone, small algae; clear, almost colourless. (est. 40–50 g Cl/l)

1096 SALINJA BARTOOL, at wall, 30.8.1932.
Probably the same. (H. B. C. SCHOTBORGH) coll.

1097 SALINJA FOENSJIE, at wall, 9.9.1930.
250 × 60 × ?3; behind wall of coral debris with percolating sea water; muddy, with pieces of coral rock, some *Enteromorpha*; rather clear and almost colourless. (est. 35–50 g Cl/l)

1098 SALINJA FOENSJIE, 30.8.1932.
Same salt pond. (H. B. C. SCHOTBORGH coll.)

1099 SALINJA SLAGBAAI, at wall, 8.9.1930.
1000 × 200 × ?4; behind porous wall of limestone debris, a small ditch giving communication with the sea once a year (salt pans in exploitation in E. part); muddy, with coral shingle, algae; clear, colourless. (est. 24–27 g Cl/l)

1099a SALINJA SLAGBAAI, 3.8.1932.
Probably the same. (H. B. C. SCHOTBORGH coll.)

Station number. Locality, date.
Dimensions of water body in m; origin; bottom and vegetation; turbidity and colour.

1100 Pool (Tanki) near Salinja Slagbaai, S of Brandaris, 2.6.1930.
25 × 2 × 1/2; probably temporary puddle in dry river bed, after heavy rains in communication with salt lake of Slagbaai; mud; turbid. (33°C surface, 29°C bottom)

1101 Salinja Tam, at wall, 23.11.1930.
600 × 100 × ?3?; behind wall of coral debris; rather clear, almost colourless. (est. 40–60 g Cl/l)

1101a Salinja Tam, 30.8.1932.
Probably the same. (H. B. C. Schotborgh coll.)

1102 Goto, Lagoen, SW.corner at wall, 22.2.1949.
Shore of salt lake, consisting of a narrow and deep S. part (Lagoen, 1500 × 150 × 16), and a much wider, largely shallow N. part (Salinja Grandi, 1500 × 600 × 10), separated from the sea by a broad but porous wall of coral debris; between debris; clear, colourless.

1103 Goto, Lagoen, at wall, 26.8.1930.
Flowing sea water percolating through wall; coral debris with *Enteromorpha* and *Cladophora*; clear, colourless. (30°C) (est. 25–35 g Cl/l)

1103a Goto, Lagoen, 30.8.1932.
Probably about the same. (H. B. C. Schotborgh coll.)

1104 Goto, Lagoen, SE.corner near wall, 26.8.1930.
Some flowing water from under the limestone plateau; some tufa deposits, *Ent.* and *Clad.*; clear, colourless. (est. 25–35 g Cl/l)

1105 Goto, Lagoen, E.shore, 26.8.1930.
The same. (est. 20–30 g Cl/l)

1106 Goto, Lagoen, spring at Rooi Riscado, 26.8.1930.
1/2 × 1/2 × 1/10; overflowing into salt lake; mud and debris, *Clad.* and *Ent.*; clear, colourless. (est. 20–25 g Cl/l)

1106A Goto, Lagoen, spring at Rooi Riscado, 2.9.1949.
3 × 2 × 1/4; overflowing; muddy, with *Ent.* and other algae; turbid, greyish.

1107 Goto, Lagoen, E.shore near rooi Riscado, 2.9.1949.
Muddy sand; clear, colourless.

1108 Goto, Salinja Grandi, E.shore, near entrance, 2.9.1949.
Sandy mud, on dead branches; clear, colourless.

1109 Goto, Salinja Grandi, NE.shore, 27.5.1930.
Salty mud flat; clear, colourless.

1109a Goto, Salinja Grandi, 26.8.1930.
The same.

1109b Goto, Salinja Grandi, 30.8.1932.
Probably the same. (H. B. C. Schotborgh coll.)

Saint Barthélemy (St. Barts)

1122 Grande Saline, 3.6.1949.
20 × 1/3 × 1/10; pool in cemented gutter for yearly supply of sea water; soft mud, algae; turbid.

1123 Grande Saline, 3.6.1949.
250 × 50 × 1/2; salt pan in exploitation; some salt on mud; turbid, almost colourless.

Saint Martin (St. Maarten)

1133 ATWELL'S POND, S.corner, 17.5.1949.
100 × 25 × $^1/_2$; separated from sea by wall of debris, after heavy rains polluted by water from Rolands Canal and possibly discharging in sea (open communication with Great Saltpond in former times); very muddy, few pieces of coral rock with *Enteromorpha*; clear, colourless.

1134 FISH NURSERY at Rolands Canal Upstreet, 19.5.1949. (Plate V*a*)
10 × 1 × $^1/_2$; cemented trough (without fish) near little spring on SE. shore of Great Saltpond, somewhat overflowing (built in 1940 and at that times used as mosquito-fish nursery, oversalted afterwards); some mud with decay, many algae; rather clear. (31°C)

1135 GREAT SALTPOND, SE.shore, 19.5.1949.
2000 × 1300 × ?2; separated from Great Bay by a broad wall (on which Philipsburg is situated), with abandoned salt pans; rock debris, mud; clear, colourless. (37°C)

1136 GREAT SALTPOND, E.shore, 5.12.1932.

1137 GREAT SALTPOND, N.shore, 5.12.1932.

1138 GREAT SALTPOND, NW.shore, 5.12.1932.
All three localities in same salt pond. (br. M. REALINO JANSSEN coll.)

1139 SALT WATER POOL NEAR FORT AMSTERDAM, 24.7.1949.
100 × 10 × $^3/_4$; in coral shingle bar (separating Great Bay and Little Bay); debris with some mud; turbid, greyish yellow.

1140 SALINE DE GRANDE CASE, 20.5.1949.
Canal for shipping, and supply of sea water, 50 m wide; muddy, with some pieces of rock, algae; rather clear, colourless. (33°C)

1141 SALINE DE GRANDE CASE, 20.5.1949.
200 × 100 × $^1/_3$; salt pan in exploitation; sandy mud, with some salt deposits; clear, somewhat reddish. (37°C)

Anguilla

1143 SALT POND OF MAZE BAY, near Long Bay, 18.6.1949.
?300 × 100 × ?$^1/_2$; soft mud with suspended algae; turbid, light greyish brown.

1144 SALT POND OF SANDY GROUND, W.side, 16.6.1949.
200 × 2$^1/_2$ × $^1/_2$; ditch between salt pond and wall; muddy, with much *Ruppia*, *Rhizoclonium* and *Chaetomorpha*; clear, colourless.

1145 SALT POND OF SANDY GROUND, W.shore, 16.6.1949.
?800 × 1400; separated from sea by broad, sandy wall (on which the houses of Sandy Ground are built); at palisade in $^1/_2$ m deep water (subjected to slight wave action); clear, colourless.

1146 SALT POND OF SANDY GROUND, W.shore, 16.6.1949.
Saltpan in exploitation (receiving water from sea through gutter 100 m away; at other side of same palisade); on blackish mud; rather clear, almost colourless.

Dog Island

1147 DOG ISLAND SALT POND, near landing, 17.6.1949.
100 × 100 × ?1; separated from sea by stretch of sand; soft, blackish mud, some coating of mucous blue algae; rather clear, colourless.

REFERENCES TO PHOTOGRAPHS

OF LOCALITITES TO BE FOUND IN A FEW SELECTED PUBLICATIONS

TABLE 1.

t.l. = top left t.c. = top center t.r. = top right
l.c. = left center c. = center r.c. = right center
b.l. = bottom left b.c. = bottom center b.r. = bottom right

Reference	*Territory*	*Date*	*Habitats*			
			land	*fresh. br. w.*	*marine*	*salt w.*
			Stations			
BAKER						
1924 fig. 5	Curaçao	VI–IX.'22	214			
7	Curaçao	VI–IX.'22	near 212			
11	Aruba	VII–VIII.'22	near 252A			
12	Aruba	VII–VIII.'22	265			
13	Curaçao	VI–IX.'22	217			
14	Curaçao	VI–VII.'22	near 352			
15	Bonaire	VIII.'22	near 185A	379		
16	Bonaire	VIII.'22	near 185			
HUMMELINCK						
1933 fig. 1	Bonaire	25.VIII.'30			near 1057	
2	Bonaire	6.IX.'30				1073 c.–l.c.
3	Bonaire	6.XI.'30			1058	
4	Bonaire	2.XI.'30			1070	
5	Kl. Bonaire	9.VI.'30	199	near 61		
6	Bonaire	3.XII.'30		59		
7	Bonaire	8.VI.'30	near 181	60		
8	Bonaire	26.VIII.'30				1108
11	Bonaire	17.V.'30		57		
Studies I,						
1940 tab. I*a*	Cubagua	21.V.'36	near 129	near 9		
I*b*	NE. Venez.	12.VI.'36	near 125			
II*a*	Margarita	4.VII.'36	144	near 26		
III*a*	Testigos	14.VI.'36	near 157			
III*b*	Hermanos	20.VII.'36	near 169			
IV*a*	Bonaire	19.V.'30	195 b.r.			
IV*b*	Bonaire	13.XI.'36	near 194	46		
V*b*	Curaçao	6.X.'36	220	76 r.c., 76A b.c.–r.		
VI*a*	Curaçao	22.X.'36	226			
VI*b*	Aruba	6.I.'37		103		
VII*a*	Aruba	20.VI.'30		near 400		
VII*b*	Paraguaná	16.II.'37		110		
VIII*a*	Paraguaná	18.II.'37	near 282			
VIII*b*	Goajira	17.I.'37		115		

Reference	*Territory*	*Date*	*Habitats*			
			land	*fresh. br. w.*	*marine*	*salt w.*
			Stations			
Studies 2,						
1940 tab. I*a*	Margarita	16.V.'36	151			
I*b*	Paraguaná	16.II.'37	280			
II*a*	Bonaire	26.III.'37	near 181	60		
II*b*	Bonaire	26.III.'37	182			
III*b*	Curaçao	11.X.'36		78		
IV*a*	Aruba	15.XII.'36		97		
HUMMELINCK,						
1948 fig. 3	Curaçao	27.X.'36	near 237			
9	Aruba	20.VI.'30		(*Stud. 1* VIIa)		
13	Aruba	5.I.'37	near 253			
18	Bonaire	19.V.'30	(*Stud. 1* IVa)			
Gedenkboek,						
1948						
Picturebook,						
1949 fig. 6(b)	Curaçao	11.X.'36	(*Stud. 2* IIIb)	(*Stud. 2* IIIb)		
6(c)	Curaçao	16.IX.'36	219			
34(a)	Kl. Curaçao	29.VIII.'36				1047
48(c)	Curaçao	–			1029 r.c.	
49(b)	Aruba	15.XII.'36		(*Stud. 2* IVa)		
49(c)	Aruba	9.I.'37	247			
49(g)	Aruba	–	near 269			
55(d)	Bonaire	1925?				near 1109
55(o)	Bonaire	–		192		
55(r)	Kl. Bonaire	9.VI.'30	(HUMM. 1933 5)	(HUMM. 1933 5)		
55(t)	Bonaire	26.III.'37	181	near 60		
56(e)	St. Martin	–	470 r.c.			
56(h)	St. Martin	–			1128 r.c.	
57(j)	Saba	–		near 521	near 1120	
58(d)	St. Eustatius	–	near 433			
WESTERMANN,						
1949 fig. 5	Curaçao	20.X.'36	201			
8	Kl. Curaçao	29.VIII.'36			(*Gedenkb.* 34(a)	
9	Curaçao	–	219			
13	Aruba	7.VII.'30	near 268A			
14	Aruba	20.VI.'30		(*Stud. 1* VIIa)		
16	Aruba	29.XII.'36	near 262A			
19	Bonaire	19.V.'30	(*Stud. 1* IVa)			
23	Saba	VII.'06	near 436			
24	St. Eustatius	–	(*Gedenkb.* 58(d)			

Reference	*Territory*	*Date*	*Habitats*			
			land	*fresh. br. w.*	*marine*	*salt w.*
Stations						
VAN DE POLL,						
1950 p. (95) fig. (b)	Curaçao	I–III.'48			1029 r.c.	
(104) (b)	Curaçao	I–III.'48	near 242			
(138) (b)	Aruba	I–III.'48		401		
(139)	Aruba	I–III.'48	near 270			
(165)	Bonaire	I–III.'48				near 1109
(166)	Bonaire	I–III.'48		near 45		
(167) (a)	Bonaire	I–III.'48				near 1077
(169) (a)	Bonaire	I–III.'48	near 188			
(181)	Saba	II.'48	298B, near 298–298A			
HUMMELINCK,						
1951 fig. 9	Curaçao	XI.'48	333			
13	Bonaire	4.IX.'48			1056	
14	Bonaire	24.II.'49			1056	
22	Curaçao	21.IV.'49		near 1037		
Studies 4,						
1952 plate Ia	Curaçao	27.I.'49	334			
Ib	Nevis	28.VI.'49		500		
IIb	Kl. Bonaire	7.IX.'48		63		
IVa	St. Eustatius	7.VII.'49		506		
IVb	St. Eustatius	8.VII.'49		514		
Va	St. Martin	19.V.'49				1134
VIa	Curaçao	2.IV.'49			1024	
VIb	Aruba	26.VIII.'49		104A–B		
VIIa	Aruba	1.I.'49			1008	
VIIb	Aruba	29.XII.'48			1004–A	
VIIIa	Saba	21.VII.'49			1120	
Landscape (aerial views in *italics*)						
BAKER,						
1924 fig. 5	Curaçao	VI–IX.'22	213–213A c.			
8	Aruba	VII–VIII.'22	267 l.c.			
14	Curaçao	VI–VII.'22			near 1019	
Studies 1,						
1940 tab. Ib	NE. Venez.	12.VI.'36	126 l.c.		1203 c.	
IIb	Margarita	27.V.'36	137 l.c.			
IIIa	Testigos	14.VI.'36	162–163 t.c.			
IVa	Bonaire	19.V.'30	190–191 t.l.			
Studies 2,						
1940 tab. *IVb*	*Aruba*	4.XII.'36	278A c., 278 b.r., 363 r.c.		1006 b.r., 1007 t.c.	

Reference	*Territory*	*Date*	*Habitats*			
			land	*fresh. br. w.*	*marine*	*salt w.*
			Landscape (aerial views in *italics*)			
HUMMELINCK, 1948 fig. *1*	*Curaçao*	VI.'47	237 t.c.			
2	*Curaçao*	VI.'47		79–80 & 395 c.		
4	*Curaçao*	VI.'47	206 & 330 c., 207 & 329A t.c., 328 l.c.		1036 b.r., 1038–1039 t.c.	
5	*Curaçao*	VI.'47	206 t.c., 328 c., 329 b.c.			
6	*Aruba*	VI.'47	266–267 b.l., 268–268B c., 269 b.r.	101 b.l., 400 t.l.		
7	Aruba	7.XII.'36	268A t.c., 268B c.			
10	Aruba	9.I.'37	247–247A c.		1011 b.r.	
11	*Aruba*	VI.'47	246 t.l., 247 –247B t.c., 248 t.r., 248A & 359 c.	92–93 c., 104 t.l.	1011 t.r.	
12	*Aruba*	VI.'47	253 & 253A b.c.			
15	*Aruba*	4.XII.'36	253A l.c.			
16	*Aruba*	4.XII.'36	253 c., 253A r.c.			
17	*Aruba*	4.XII.'36	(*Stud. 2* IVb)		(*Stud. 2* IVb)	
19	*Bonaire*	VII.'47	306 b.l.	51 t.r.	1053–1054 t.l., 1057 t.c.	
20	*Bonaire*	13.XI.'36			1057 t.l.	
Gedenkboek, 1948						
Picturebook, 1949 fig. *4(a)*	*Curaçao*	–			1031–1033 r.c.	
4(b)	*Curaçao*	–	212 r.c.		near 1034 t.r.	
49(a)	*Aruba*	–	268c., 268A t.c.			
49(d)	*Aruba*	–				near 1012 t.l.
55(a)	Bonaire	2.III.'44			1057 t.l.	
55(c)	Bonaire	–			1053–1054 t.	
56(c)	*St. Martin*	1947	461 b.r., 464 l.c.		1126 b.r., 1127–1128 r.c.	1133 b.r., 1134–1136 r.c., 1137c. 1138 l.c.
57(a)	*Saba*	–	near 446 b.l.	521 b.c., 522 b.l.		
57(f)	Saba	–	444 t.l.			
57(g)	Saba	–	near 439 t.c.			
57(h)	*Saba*	–	298 r.c.	521 b.l.	1120 b.l.	
58(c)	St. Eustatius	–	432 r.c.	510 r.c., 511 t.r.	1117–1119 t.c.	
58(d)	St. Eustatius	1947	429 t.c., 430–431 c.			

Reference	*Territory*	*Date*	*Habitats*			
			land	*fresh. br.w.*	*marine*	*salt w.*
Landscape (aerial views in *italics*)						
WESTERMANN,						
1949 fig. *6*	*Curaçao*	VI.'47	(HUMM.1948 4)		(HUMM.1948 4)	
12	Aruba	7.XII.'36	(HUMM.1948 7)			
13	Aruba	7.VII.'30	269 r.c.			
18	Bonaire	XII.'46	near 312			
20	*St. Martin*	1947	(*Gedenkb.* 56(c)		(*Gedenkb.* 56(c)	
22	Saba	VII.'06	near 435 r.c.			
24	St. Eustatius	1947	(*Gedenkb.* 58(d)			
VAN DE POLL,						
1950 p.(171) fig.(a)	St. Martin	II.'48	462 r.c.			1139 c.
(174)	St. Martin	II.'48	472 l.c.		1130 b.c.	
(182)	Saba	II.'48	444 t.l.			
(185)	Saba	II.'48	441 t.c.			
(188) (b)	St. Eustatius	II.'48	429–431 c.	505–509 b.c.–r.		
(189)	St. Eustatius	II.'48	432 r.c.	510–511 r.c.	1017–1018 t.r.	
HUMMELINCK,						
1951 fig. *10*	*N. Bimini*	17.VIII.'49	495 b.l., 496		1151 t.r.	
19	*Curaçao*	1949			1035 l.c., 1037 t.r., 1037A r.c.	
21	Curaçao	21.IV.'49			near 1037a b.r.	
23	Curaçao	II.'50			1036 b.r.	
PHELPS & PHELPS,						
1951 fig. p. 9(a)	Gran Roque	II.'48	near 176 b.	near 41 b.		
9(b)	Cayo de Agua	II.'48	near 178 c.	near 43 b.		
12	Gran Roque	II.'48	176 c.	near 41 l.c., near 42 r.c.		
Studies 4,						
1952 plate II*a*	Bonaire	15.IX.'48		382 t.r.		
III*a*	Fourche	2.VI.'49	452 b.r.	525 c.	1122 c.	
III*b*	St. Martin	8.VI.'49	475 r.c.			
V*a*	St. Martin	19.V.'49				1134 c., near 1135 r.c., 1138 c.
V*b*	Kl. Bonaire	1.IX.'48	near 320 l.c.	385 l.c., 386 c.		1050 r.c., 1051 c., 1052 c.
VIII*b*	St. Martin	11.VI.'49			1126 l.c.	

BIBLIOGRAPHY

of selected papers continued from *Studies 1*, p. 37–41.

ALEMÁN, CÉSAR, 1952. Ensayo sobre la variabilidad de pequeñas poblaciones de lagartos (Cnemidophorus lemniscatus nigricolor Peters, 1873) de las islas Los Roques y La Orchila. *Memoria Soc. Cienc. Nat. La Salle 12*, 32, p. 131–142, 5 figg., 2 graph., map.

ALLAN HANCOCK ATLANTIC EXPEDITION. *Univ. S. Calif. Publ.* — Near Cabo la Vela A12–14; near Bahía Honda A15; Aruba, Pta. Basora A16; near Aruba A17–18; Tortuga A20–21; near Tortuga A22–23; near Cubagua A24, 26–29, 31; Cubagua A25, 30; near Coche A32–33; near Margarita A42; near Tortuga A43–44; Curaçao, Schottegat A44a; Curaçao, Sta. Anna Harbor A45, 47; Curaçao, Jan Thiel A46.

Report 1. GARTH, 1945, Geographical account and station records... — *2*. TAYLOR, 1942, Caribbean marine algae. — *3*. HARTMANN, 1944, Polychaetous Annelids. — *4*. FRASER, 1947, Hydroids... — *5*. OSBURN, 1947, Bryozoa....

BAKER, HORACE BURRINGTON, 1924. Land and freshwater molluscs of the Dutch Leeward Islands. *Occ. Pap. Mus. Zool. Michigan 152*, 159 pp., 21 tabb. excl. — P h o t o g r a p h s ! of localities.

BARBOUR, THOMAS, 1914. A contribution to the zoögeography of the West Indies, with especial reference to amphibians and reptiles. *Memoirs Mus. Comp. Zoöl. Harvard 44*, 2, p. iv + 209–359, plate with 15 figg. excl.

BARBOUR, THOMAS, 1937. Third list of Antillean reptiles and amphibians. *Bull. Mus. Comp. Zoöl. Harvard 82*, p. 77–166.

BEARD, J. S., 1946. The natural vegetation of Trinidad. *Oxford Forestry Memoirs 20*, 152 pp., 46 figg. 26 of which on 14 plates excl., map.

BEARD, J. S., 1949. The natural vegetation of the Windward & Leeward Islands. *Oxford For. Mem. 21*, 192 pp., 52 figg. 31 of which on 16 plates excl.

BOLDINGH, I., 1909. *The flora of St. Eustatius, Saba and St. Martin*. E. J. Brill, Leiden, xiv + 321 pp., 3 maps excl. Also: dissertation Utrecht 1. VII. 1909.

BØRGESEN, F., 1913–1920. The marine algae of the Danish West Indies. Reprinted from *Arkiv for Botanik*. I Chlorophyceae, 1–158 + 2 pp., fig. 1–126, 1913; Phaeophyceae, 2 + 159–226 + 2 pp., fig. 127–170, 1914. II Rhodophyceae with addenda, (4) + 498 + (6) pp., 435 figg., 1915–1920.

British Admiralty Charts. — Naut. m a p s !

BUDOWSKY, GERARDO, 1949. *Vegetación y agricultura en la Isla de Margarita*. Ministerio de Agricultura y Cría., Dep. Divulg. Agrop., Caracas, vi + 18 pp., 16 phot., coloured map excl.

BUDOWSKY, GERARDO, 1949. *La Isla de Margarita y sus problemas*. Minist. Agricult., Dep. Divulg. Agrop., Caracas, 25 pp., 24 phot.

BURDON, KATHARINE JANET, 1920. *A handbook of St. Kitts-Nevis*. The West India Committee, London, viii + 247 pp., 5 maps and 15 full page figg. excl.

BIJDRAGEN TOT DE KENNIS DER FAUNA VAN CURAÇAO. *Bijdr. dierk.* Amsterdam.

23, 1924. 1. VAN DER HORST, Narrative of the voyage... 2. RATHBUN, Brachyuran crabs... 3. VAN NAME, Ascidians... 4. VAN DER HORST, West-Indische Enteropneusten. 5. SCHMITT, The Macruran, Anomuran and Stomatopod Crustacea. 6. STIASNY, ... Medusen. 7. PAX, Actiniarien, Zoantharien und Ceriantharien von Curaçao.

24, 1925. 1. NIERSTRASZ & BRENDER À BRANDIS, Epicaridea. 2. BOSCHMA, Rhizocephala of Curaçao. 3. GORDON, Gorgonids... 4. VAN BENTHEM JUTTING, ... non-marine Mollusca from Curaçao. 5. ENGEL, Westindische Opisthobranchiate Mollusken. 6. TEN BROEKE, Westindische Sipunculiden und Echiuriden. 7. STIASNY-WIJNHOFF, ... Nemerteans from Curaçao.

25, 1927. 1. VAN BENTHEM JUTTING, Marine Molluscs... 2. PILSBRY, Cirripedia of Curaçao. *3*. AUGENER, Polychaeten von Curaçao. 4. ENGEL, Westindische Opisthobranchiate Mollusken, II. 5. OSBURN, The Bryozoa of Curaçao. 6. ARNDT, Kalk- und Kieselschwämme von Curaçao. 7. VAN DER HORST, Madreporaria. WILSON, Copepoda parasitica. NIERSTRASZ, Isopoda. NIERSTRASZ, Chitonida. VAN DER HORST, Asteroidea. ENGEL, Echinoidea. TEN BROEKE, Holothuroidea.

22, 1922. METZELAAR, On a collection of marine fishes... (p. 133). HORST, On some Polychaetous Annelids from Curaçao (p. 193). A. H. CLARK, The Ophiurans... (p. 209). DE ROOY, Reptiles and amphibians of Curaçao (p. 249).

CATER, J. C., (1944). Forestry in the Leeward Islands. *Developm. Welfare W. Indies Bull. 7*, 106 pp.

CHRISTMAN, R. A., 1950. *Geology of Saint Bartholomew, Saint Martin and Anguilla, West Indies.* Dissertation Princeton Univ. Dept. of Geology, May 1950, vi + 172 pp. typescript, index map, 30 photographs, maps and figg. — Topogr. and geol. m a p s! of St. Martin, St. Barts and Anguilla.

CHRISTMAN, ROBERT A., 1953. Geology of St. Bartholomew, St. Martin, and Anguilla, Lesser Antilles. *Bull. Geol. Soc. Amer. 64*, 65–96, 4 figg., 2 m a p s, and 4 phot. on 2 plates excl.

CORY, CHARLES B., 1891. A collection of birds.... of Anguilla, Antigua, and St. Eustatius .... *Auk 8*, p. 46–47.

CORY, CHARLES B., 1909. The birds of the Leeward Islands, Caribbean Sea. *Publ. Field Mus. Nat. Hist. 137*, Ornith. Ser. 1, p. 192–255.

DANFORTH, STUART T., 1930. Notes on the birds of St. Martin and St. Eustatius. *Auk 47*, p. 44–47.

DANFORTH, STUART T., 1939. The birds of Saba. *J. Agric. Puerto Rico 22*, p. 503–512.

FRÉMY, P., 1941. Cyanophycées des îles Bonaire, Curaçao et Aruba .... *Revue Algolog. 12*, p. 101–152. — See also *W. I. Gids 26*, 1943, p. 62–64. (From Sta. 29, 35, 50, 52, 53a, 61, 74, 75, 105, 109; 1001, 1003, 1005, 1011, 1021, 1027, 1032, 1035, 1049a, 1057, 1058, 1058b, 1060, 1062, 1063, 1064–a, 1068; 1050–c, 1072–a, 1073, 1073b–c, 1080–a, 1081, 1082, 1083–a, 1084, 1085, 1087, 1088, 1089, 1090, 1093, 1095, 1096, 1097, 1098, 1099, 1101–a, 1103–a, 1104, 1106, 1109, 1109b).

GARTH, JOHN S., 1945. Geographical account and station records of Velero III in Atlantic waters in 1939. *Univ. S. Calif. Publ. Allan Hancock Atl. Exp. Report 1*, iv + 106 pp., 10 charts, 60 phot. on 28 plates excl. — From La Goajira to Trinidad: p. 12–28, charts 3–10, plate 9–20, 26–27, Sta. A12–A37, A42–A47.

GEIJSKES, D. C., 1934. Notes on the Odonate-fauna of the Dutch West Indian islands Aruba, Curaçao and Bonaire, with an account on their nymphs. *Intern. Revue Hydrobiol. 31*, p. 287–311, 18 fig., tab. excl. — (From Sta. 44a, (45), 53b, 63b, 93a, 372).

GONZÁLEZ P., EPIFANIO, 1949. Datos detallados de climatología de Venezuela. *Publ. Div. Malariol.* Minist. S.A.S. Caracas *8* (1948), 640 pp.

HASS, HANS, 1941. *Unter Korallen und Haien. Abenteuer in der Karibischen See.* Deutschen Verlag, Berlin, 190 pp., 3 figg., 77 phot. on 48 plates excl. — Refers to Bonaire and Curaçao; submarine photographs. See also *W. I. Gids 26*, 1944, p. 181–190.

HASS, HANS, 1947. *Drei Jäger auf dem Meeresgrund.* Orell Füssli, Zürich, 323 pp., 105 phot. on 56 plates excl. — Pages 126–279 and 73 figg. referring to Bonaire and Curaçao.

HESS, H. H. & MAXWELL, J. C., 1949. Geological reconnaissance of the island of Margarita, Part I. *Bull. Geol. Soc. Am. 60*, p. 1857–1868, 2 figg., 2 maps excl. — Topogr. and geol. m a p s! of Eastern Margarita.

Jaarboek 1948–1951. Natuurwetenschappelijke Studiekring voor Suriname en de Nederlandse Antillen. *Uitgaven Natuurwet. Studiekring Sur. N. Ant. 6*, 1951, 127 pp. — Yearbook of the Foundation for Scientific Research in Surinam and the Netherlands Antilles, with papers in Dutch and English. L i t e r a t u r e! See also *Jaarboek 1946–1948*, and *Jaarboek 1945–1946*.

KOSTER, JOSEPHINE TH., 1943. Some Chlorophyceae from the marine salines of Bonaire... *Blumea 5*, p. 328–335, 2 figg. — (From Sta. 1063; 1050, 1089, 1091, 1097, 1104, 1106. See also FRÉMY, 1941, Sta. 50, 53a, 61, 75, 105; 1050, 1072–a, 1089, 1097, 1099, 1103, 1104, 1106).

KRUYTHOFF, S. J., 1939. *The Netherlands Windward Islands... A handbook of useful information for visitor as well as resident.* (Printed in Antigua), 2nd ed., 164 pp., illustr.

(LABAT, JEAN-BAPTISTE), 1722. *Nouveau voyage aux isles de l'Amerique*, VI. Paris.

MARCUZZI, GIORGIO, 1949. Contribución al conocimiento de los Tenebrionidae de Venezuela. *Memoria Soc. Cienc. Nat. La Salle 9*, 25, p. 333–352, 2 maps, 8 figg.

MARCUZZI, GIORGIO, 1950. Contribución al estudio de la ecología del medio xerófilo venezolano. *Acta cient. venez. 1*, p. 94–104, 4 figg. — Investigations on the xerophilous area of Maiquetía, near La Guaira.

MARCUZZI, GIORGIO, 1951. Osservazioni sulla sistematica e variabilità di alcune specie di lucertole (Rept., Lacertilia) del Venezuela. *Arch. zool. Ital. 36*, p. 17–56, 3 maps.

MARCUZZI, G., 1951. Contributi alla conoscenza dei tenebrionidi venezuelani (Coleoptera). *Atti Museo Civico Storia Naturale Trieste 18*, p. 61–80, 9 maps, plate II excl.

MARCUZZI, G., 1951. Notas preliminares sobre la fauna y flora de la isla de Margarita. *Memoria Soc. Cienc. Nat. La Salle 10*, 27, p. 207–256, 26 figg.

MAZÉ, H., 1890. Supplément au Catalogue révisé des Mollusques terrestres et fluviatiles de la Guadeloupe et de ses dépendences. *J. Conchyol. 38*, p. 19–34. — Saint-Martin p. 22–34.

MOLENGRAAFF, G. A. F., 1886. *De geologie van het eiland St. Eustatius.* Leiden, 62 pp., 3 plates. Dissertation 11-XI-'86 Utrecht.

MOLENGRAAFF, G. A. F., 1931. Saba, St. Eustatius (Statia) and St. Martin. *Leidsche geol. meded. 5*, p. 715–739, 14 figg.

MOSELEY, MARY, 1926. *The Bahamas handbook.* The Nassau Guardian, Nassau, 203 (238) pp., illustr.

MURPHY, ROBERT CUSHMAN, 1952. Bird islands of Venezuela. *Geogr. Rev. 42*, p. 551–561, map, 16 phot., 8 of which col. — Visits Margarita, Los Hermanos, Blanquilla and Orchila in Febr.–March 1952.

(*Netherlands Government Charts.*) — Naut. m a p s!

OOSTSTROOM, S. J. VAN, 1939. Some notes on a collection of aquatic phanerogams from the Netherlands West Indian islands, and from Venezuela and Colombia. *Recueil trav. bot. néerl. 36*, p. 705–708. — (From Sta. 13, 18, 22, 30, 63c–d, 70, 75–a, 76A, 77A, 81, 105, 107, 108, 109, 110, 114; 1062).

Oranje en de zes Caraïbische parelen. Orange and the six Caribbean pearls. Platenboek/ Picturebook. J. H. de Bussy, Amsterdam, 1949, 236 pp., 391 figg. — P h o t o g r a p h s! from the *Officieel gedenkboek....* 1948.

Overzicht der meteorologische waarnemingen verricht op de meteorologische stations in Nederlands West-Indië in de jaren 1940–1946, 1948. Summary of the meteorological observations ... in the Netherlands West-Indies ... Staatsdrukkerij, 's-Gravenhage, 38 pp.

PARR, ALBERT EIDE, 1937. A contribution to the hydrography of the Caribbean and Cayman Seas. *Bull. Bingham Oceanogr. Coll. 5*, art. *4*, 110 pp., 82 figg.

PARR, ALBERT EIDE, 1938. Further observations on the hydrography of the eastern Caribbean and adjacent Atlantic waters. *Bull. Bingham Oceanogr. Coll. 6*, art. *4*, 29 pp., 23 figg.

PHELPS, WILLIAM H. & PHELPS JR, WILLIAM H., 1950. Lista de las aves de Venezuela con su distribución. Parte 2, Passeriformes. *Bol. Soc. Venez. Cienc. Nat. 12*, 75, p. 1–427, map excl.

PHELPS, WILLIAM H. & PHELPS JR, WILLIAM H., 1951. Las aves de las islas Los Roques y Las Aves ... *Bol. Soc. Venez. Cienc. Nat. 13*, 76 (1950), p. 7–30, 5 phot., map, map excl. — P h o t o g r a p h s! Topogr. m a p s!

PHELPS, WILLIAM H. & PHELPS JR, WILLIAM H., 1951. Las aves de Bonaire. *Bol. Soc. Venez. Cienc. Nat. 13*, 77 (1950), p. 161–187, 5 phot., map.

PHELPS JR, WILLIAM H., 1945. Las aves de las islas Los Testigos, Los Frailes y La Tortuga. *Bol. Soc. Venez. Cienc. Nat. 9*, 60 (1944), p. 257–283, 6 phot. & map on 5 plates excl.

PHELPS JR, WILLIAM H., 1948. Las aves de la isla La Blanquilla y de los morros El Fondeadero y La Horquilla del archipiélago de Los Hermanos. *Bol. Soc. Venez. Cienc. Nat. 11*, 71 (1947), p. 85–118, 4 phot., 2 maps. — Topogr. m a p s!

PHELPS, W. H. & FERNÁNDEZ YÉPEZ, ALBERTO & BENEDETTI, FULVIO L., 1940. Las aves de Margarita. *Bol. Soc. Venez. Cienc. Nat. 6*, 43, p. 91–132, map excl.

POLL, WILLEM VAN DE, 1950. *De Nederlandse Antillen*. W. van Hoeve, 's-Gravenhage, 64 pp., 213 figg. on 129 plates excl., map. — Picture-book. P h o t o g r a p h s!

QUESTEL, ADRIEN, 1941. *The flora of St- Bartholomew (French West Indies) and its origin*. Imprimerie Catholique, Basse-Terre (Guadeloupe), vii + 224 pp., photogr. and 3 maps excl.

RÁCENIS, JÁNIS, 1952. *Apuntes sobre la fauna endémica de las regiones semiáridas de Venezuela*. Intern. Union Prot. Nature, 3rd Gen. Assembly, Caracas 1952, Techn. Session, 51 pp. mimeogr.

RAKESTRAW, NORRIS W. & SMITH, HOMER P., 1937. A contribution to the chemistry of the Caribbean and Cayman Seas. *Bull. Bingham Oceanogr. Coll. 6*, art. *1*, 41 pp., 32 figg.

RAPPORT BETREFFENDE EEN VOORLOOPIG ONDERZOEK NAAR DEN TOESTAND VAN DE VISSCHERIJ .... IN DE KOLONIE CURAÇAO. 's-Gravenhage.
Part *1*, 1907. BOEKE, (Report on the fisheries of the Neth. Antilles).
Part *2*, 1919. METZELAAR, Report on the fishes ... RATHBUN, Stalk-eyed crustaceans ... RICHARDSON, Isopod crustaceans ....

ROBINSON, WIRT, 1895. *A flying trip to the tropics. A record of an ornithological visit to the United States of Colombia, South America and to the island of Curaçao West Indies in the year 1892*. Cambridge, Mass., x + 194 pp., illustr. — Curaçao p. 12–29, 136–149, 163–167, 193–194.

RUTTEN, L., 1940. New data on the smaller islands North of Venezuela. *Proc. Ned. Ak. Wetensch. 43*, p. 820–827, map.

RUTTEN, L., 1940. On the geology of Margarita, Cubagua and Coche (Venezuela). *Proc. Ned. Ak. Wet. 43*, p. 828–841, map.

SANTING, G., 1949. Nota inzake de hydrologie van Curaçao en Aruba. In: Rapport KRUL, *De waterhuishouding van Curaçao en Aruba*, 's-Gravenhage, 1949, i + iv + 85 pp. mimeogr., 10 figg. & tables excl. — Report on the hydrology of Curaçao and Aruba. Review in *W. I. Gids 31*, p. 31–38.

SCHUCHERT, CHARLES, 1935. *Historical geology of the Antillean-Caribbean region*. John Wiley & Sons, New York, xxvi + 811 pp., 124 figg. and maps, 18 of which excl.

SCHUURMANS STEKHOVEN JR., J. H., 1941. Die Ausbeute an Pupiparen einer Reise .... nach den Inseln Unter den Wind (Westindien). *Zool. Anz. 136*, p. 79–80. — (Sta. 142, 165, 183).

SMITH, C. L., 1940. The Great Bahama Bank. I. *J. mar. res. 3*, p. 147–170, fig. 44–51.

SNELLEN, P. C. T., 1886. Bijdrage tot de kennis der Lepidoptera van het eiland Curaçao. *Tijdschr. entom. 30*, p. 9–66, plate 1–5 excl.

STUDIES ON THE FAUNA OF CURAÇAO, ARUBA, BONAIRE AND THE VENEZUELAN ISLANDS, Martinus Nijhoff, The Hague.
Vol. *1*, 1940, viii + 130 pp., 22 figg., 16 plates excl. — Also dissertation of editor 8-VII-'40 Utrecht.
Vol. *2*, 1940, viii + 150 pp., 23 figg., 12 plates excl.
Vol. *3*, 1948, viii + 95 pp., 31 figg., 2 plates excl.

SUNDEVALL, CARL J., 1869. Foglarne på ön S:t Barthelemy .... *Öfv. K. Vetensk. Akad. Förhandl. 1869*, p. 579–591.

THOMPSON, T. A., 1949. *A short geography of the Bahamas.* Rev. ed. (Printed by The Nassau Daily Tribune, Nassau), iv + 43 pp., map excl.

Topographische kaart van St. Martin, 2 sheets. .... *St. Eustatius*, 1 sheet. 1 : 20,000, ('s-Gravenhage), 1916. — Topogr. m a p s!

U.S. Hydrographic Office Charts. — Naut. m a p s!

VENLO, PAUL VAN (Vitus Brenneker), 1950. *Met de camera op de zeebodem van Curaçao.* (Private edition. Venlo), 63 pp., 64 phot. — Picture-book of under water photographs, Curaçao and Bonaire.

VIETS, KARL, 1940. Zwei neue Porohalacaridae (Acari) aus Südamerika. *Zool. Anz. 130*, p. 191–210, 12 figg. — (Sta. 1, 17, 53, 55, 61, 80, 93).

VIETS, KARL, 1940. Neue Hydrachnellae (Acari) aus Südamerika. *Zool. Anz. 131*, p. 90–101, 14 figg. — (Sta. 15, 26, 27, 61, 75, 81, 83, 96, 106).

VISSER, W. C., 1949. Beschouwingen over de regenval. In: Rapport KRUL, *De waterhuishouding van Curaçao en Aruba*, 's-Gravenhage, 1949, i + 8 pp. mimeogr., 4 figg. excl. — Considerations on the rainfall. Review in *W. I. Gids 31*, p. 23.

VISSER, W. C., 1951. Een onderzoek naar de waterhuishoudkundige grondslagen van de landbouw op de Benedenwindse Eilanden. *Landbouwk. Tijdschr. 63*, p. 293–301, 4 figg. (Summary: An investigation on the utilization of the water resources on the Leeward Islands).

VOOUS, K. H., 1953. Vogeltrek op de Nederlandse Benedenwindse Eilanden. *West-Indische Gids 33* (1952), p. 183–190. (Summary: Bird migration on the Netherlands Leeward Islands).

WAGENAAR HUMMELINCK, P., 1933. Reisebericht. Zool. Ergebn. Bonaire. *Zool. Jahrb. Syst. 64*, p. 289–326, 14 figg., 2 maps. — P h o t o g r a p h s! (Marine Sta. (1005), 1035, 1049, 1057, 1058, 1062, 1064, 1070A).

WAGENAAR HUMMELINCK, P., 1940. General information. *Studies fauna Curaçao 1*, p. 1–57, fig. 1–19, 16 phot. on plate 1–8 excl. — P h o t o g r a p h s!, geol. and topogr. m a p s!, l i t e r a t u r e!

WAGENAAR HUMMELINCK, P., 1940. A survey of the mammals, lizards and mollusks. *Studies fauna Curaçao 1*, p. 59–108, fig. 20, plate 9–16. — L i t e r a t u r e!

WAGENAAR HUMMELINCK, P., 1940. Zoogeographical remarks. *Studies fauna Curaçao 1*, p. 109–130, fig. 21–22. — Literature!

WAGENAAR HUMMELINCK, P., 1940. Description of the localities. *Studies fauna Curaçao 2*, p. 1–42, fig. 1–7, 8 phot. on plate 1–4 excl. — Photographs!

WAGENAAR HUMMELINCK, P., 1943. Zoögeografische opmerkingen over de Nederlandsche Benedenwindsche Eilanden. *W. I. Gids 25*, p. 168–180, 2 figg., 11 phot. on 8 plates excl. — Zoogeogr. remarks.

WAGENAAR HUMMELINCK, P., 1948. Een luchtreiziger over het landschap van de Nederlandse Benedenwindse Eilanden. *Tijdschr. Ned. Aardr. Gen. 65*, p. 683–691, 21 phot. on 14 plates excl. — On the landscape of Aruba, Curaçao and Bonaire as seen from the air (p. 690 line 35 read Acropora). Photographs!

WAGENAAR HUMMELINCK, P., 1951. Natuurwetenschappelijke belangstelling voor de Nederlandse Antillen. *W. I. Gids 32*, p. 1–31, 23 figg., 15 phot. of which on 8 plates excl. Also: Publ. Nat. Sci. Study Group Neth. Ant., Curaçao, *1*. Summary in english: Scientific interests in the Netherlands Antilles. — Literature!

WAGENAAR HUMMELINCK, P., 1952. Islote Aves, een vogeleiland in de Caraïbische Zee. *W. I. Gids 33*, p. 23–34, 8 figg., 6 phot. of which on 3 plates excl. Summary in english: Islote Aves, a bird island in the Caribbean. — (Sta. 411, 412).

WESTERMANN, J. H., 1947. Natuurbescherming op de Nederlandsche Antillen .... *W. I. Gids 28*, p. 193–216, fig., 11 phot. on 6 plates excl.

WESTERMANN, J. H., 1949. Overzicht van de geologische en mijnbouwkundige kennis der Nederlandse Antillen .... *Meded. Ind. Inst. 85*, 168 pp., 10 maps, 24 phot. on 12 plates excl. Summary in english: Survey of the geology and mining of the Netherlands Antilles. Publ. R. Trop. Inst. Amsterdam 85. — Photographs!, geol. maps!, literature!

WESTERMANN, J. H., 1952. Conservation in the Caribbean. *Uitgaven Natuurwet. Studiekring Sur. N. Ant. 7*, 121 pp. Publ. Found. Sci. Research Surinam Neth. Ant., Utrecht, 7. — Literature!

WESTERMANN, J. H., 1952. *Nature preservation in the Caribbean.* Intern. Union Prot. Nature, 3rd Gen. Assembly, Caracas 1952, Techn. Session, 52 pp. mimeogr.

YÉPEZ, FRANCISCO & FERNÁNDEZ YÉPEZ, ALBERTO & BURGAÑA, JOSÉ MARÍA, 1945. Fauna y flora tortuguenses. *Memoria Soc. Cienc. Nat. La Salle 5*, 13, repr. 19 pp.

ZANEVELD, J. S., 1941. Some notes on Charophyta collected in the Netherlands West Indies, North Venezuela and Colombia. *Recueil trav. bot. néerl. 38*, p. 141–146. — (From Sta. 13, 18, 63, 63c, 70, 75a, 76A, 89, 99, 108, 109, 114, 119).

ZOOLOGISCHE ERGEBNISSE EINER REISE NACH BONAIRE, CURAÇAO UND ARUBA IM JAHRE 1930.

Zool. Jahrb. Syst. 64, 3/5, 1933. 1. WAGENAAR HUMMELINCK, Reisebericht. 2. MICHAELSEN, Süss- und Brackwasser-Oligochäten... (Sta. 44a, 47a, 48b, 52b, 93a, 102Aa, 104Ba). 3. AUGENER, Süsswasser-Polychaeten von Bonaire (Sta. 48b). 4. RAMMNER, Süss- u. Brackwasser-Phyllopoden von Bonaire (Sta. 44a, 46a, 52b, 53b, (61)). 5. KLIE, Süss- und Brackwasser-Ostracoden... (Sta. 44a, 46a, 49a, 52b, 53b, 54, 57b, 60a, (61), 63b, 93a, 102Aa, 104Ba, (379)). 6. CHAPPUIS, Süss- und Brackwasser-Copepoden... Harpacticoida (Sta. 48b, (52b), (71), 102Aa). 7. KIEFER, ... Cyclopoida (Sta. 44a, 93a, 104Ba). 8. STEPHENSEN, Fresh- and brackish-water Amphipoda... (see *Studies 3*). 9. STEPHENSEN, Amphipoda from the marine salines... (Sta. 1032, 1055A-Aa; 1084, 1089, 1099, 1103, 1104, 1105, 1106). 10. WILLMAN, ... neue Oribatide... 11. WAGENAAR HUMMELINCK, ... Scyphomedusen-Gattung Cassiopea (Sta. 1064A–Aa). 12. NILSSON-CANTELL, Cirripeds from Bonaire (Sta. 1011, (1016), 1035, 1049a, 1057, 1058b, 1064, 1070A).

Mém. Mus. R. Hist. Nat. Belg. (2) 2, 1935. 13. LELOUP, Hydraires calyptoblastiques ... (Sta. 1001, 1003, 1005, 1006, 1011, 1016–A, 1035, 1049–a, 1057–b, 1058, 1058b, 1060–a, 1061, 1062, 1064–A, 1068, 1069, 1070A, 1071Ba).

Zool. Jahrb. Syst. 67, 5/6, 1936. 14. AUGENER, Polychaeten aus den marinen Salinen... (Sta. 1032, 1055A; 1084, 1087, 1089, 1104, 1105, 1106). 15. RAMMNER, Artemia salina... (Sta. 1073–a, 1073c, 1080a, 1081, 1083a, 1090, 1093, 1096, 1098, 1099a, 1101–a, 1103a, 1105, 1109–b, 1136, 1137, 1138). 16. SCHMITT, Macruran and Anomuran Crustacea... (Sta. 57b; (245), 278; 1001, 1003, 1006, 1011, 1016, 1021, 1027, 1049–a, 1055A, 1057–a, 1058–b, 1060a, 1062, 1063, 1064–A, 1068, 1070A). 17. RATHBUN, Brachyuran Crustacea... (Sta. 48b, (54), 57b; 1001, 1003, 1005, 1011, 1016, 1021, 1027, (1031), 1049–a, 1055A, 1057–b, 1058a–b, 1062, 1064, 1068, 1070A). 18. VIETS, Halacariden aus Westindien (Sta. 1006, 1016, 1021, 1032, 1057–a). 19. VIETS, Eine neue Hyadesia... (Sta. 1032). 20. WILLMANN, Oribatiden ... (Sta. 1032, 1057a; 1098, 1109, 1101a). 21. BEIER, ... Pseudoscorpione. 22. SANDERS, Nichtmarine Fische ... (see *Studies 2*).

Capita zoologica 8, 1, 1936. 23. ENGEL, Ueber Westindische Aplysiidae ... (Sta. 1001, 1006, 1016, 1021, 1027, (1032), 1049a, 1057–b, 1058a–b).

Capita zoologica 8, 3, 1937. 24. ADAM, Céphalopodes ... (Sta. (1016), (1057), 1058b, 1068).

Capita zoologica 8, 4, 1939. 25. KLIE, Ostracoden aus den marinen Salinen ... (Sta. 1032, 1055A–Aa; 1050, 1050b–c, 1073, 1073b–c, 1083–a, 1084, 1085, 1087, 1088, 1089, 1091, 1097, 1098, 1099–a, 1100, 1101, 1103–a, 1109). 26. NILSSON-CANTELL, Recent and fossil Balanids ... ((1126), 1212, 1203). 27. ENGEL, Echinoderms ... (Sta. 1001, 1003, 1003b, 1006, 1011, 1016, 1021, 1027, (1037), 1049a, 1057–b, 1058–b, 1064A–Aa, (1067), 1068, 1069, 1070A, (1126), (1148), 1203, 1211, 1216).

Arch. néerl. zool. 6, 1941. STIASNY, Gorgonaria von Venezuela ... (Sta. 1213, 1214, 1215).

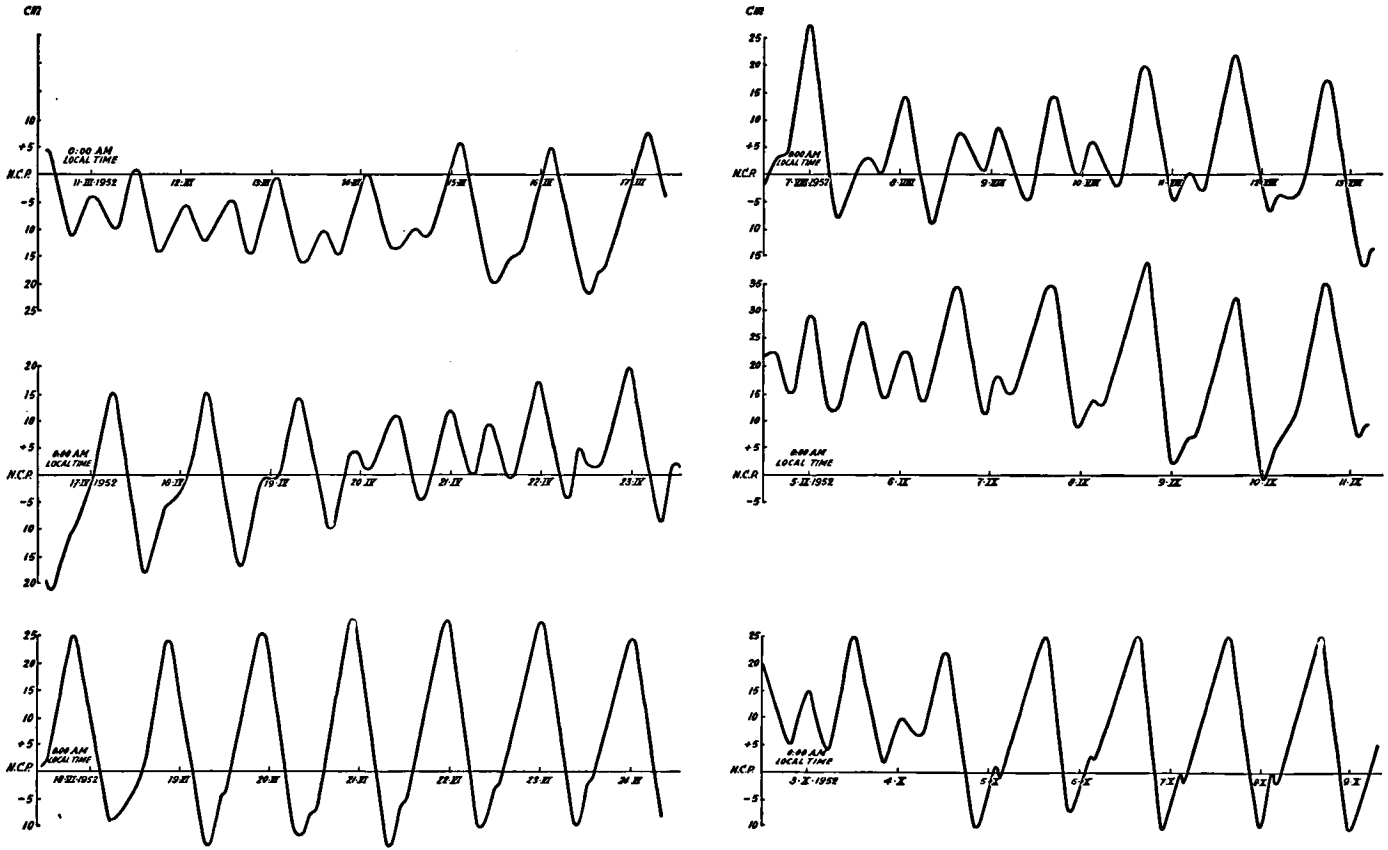


Fig. 1. Tidal movements at the entrance of St. Anna Bay, *Curaçao*, according to data obtained from Harbour Office Willemstad by courtesy of A. N. Th. van Meeteren, from graphics by J. G. de Jong, Curaçao. — Periods 11–17.III, 17–23.IV, 18–24.VI, 7–13.VIII, 5–11.IX and 3–9.X.1952. N.C.P. means „Normaal Curaçaos Peil", normal sea level at Curaçao.

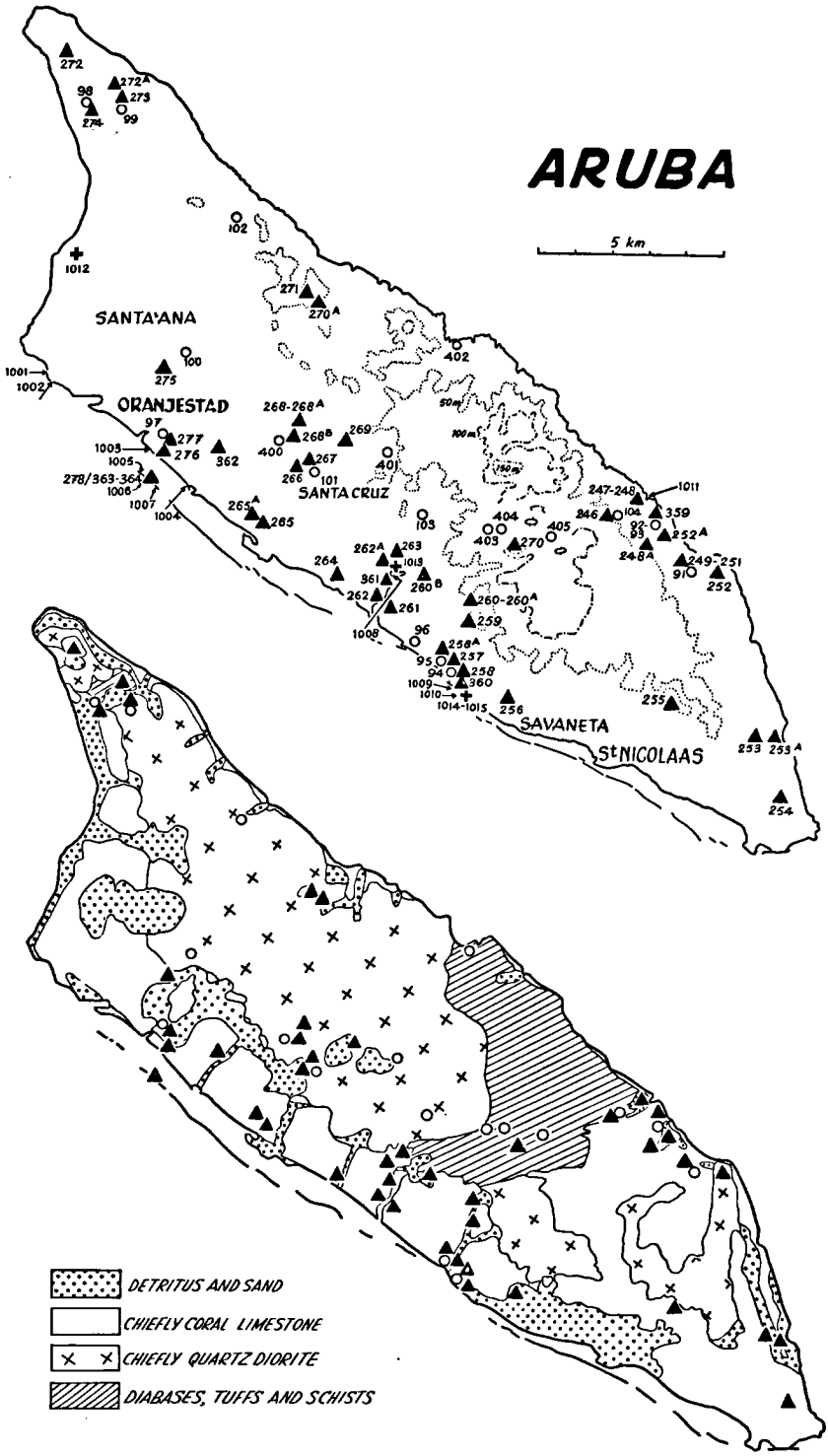


Fig. 2. *Aruba*, with stations; contour intervals of 50, 100, and 150 m (from Neth. Govern. maps).

Fig. 3. *Aruba* (from WESTERMANN's geol. map).

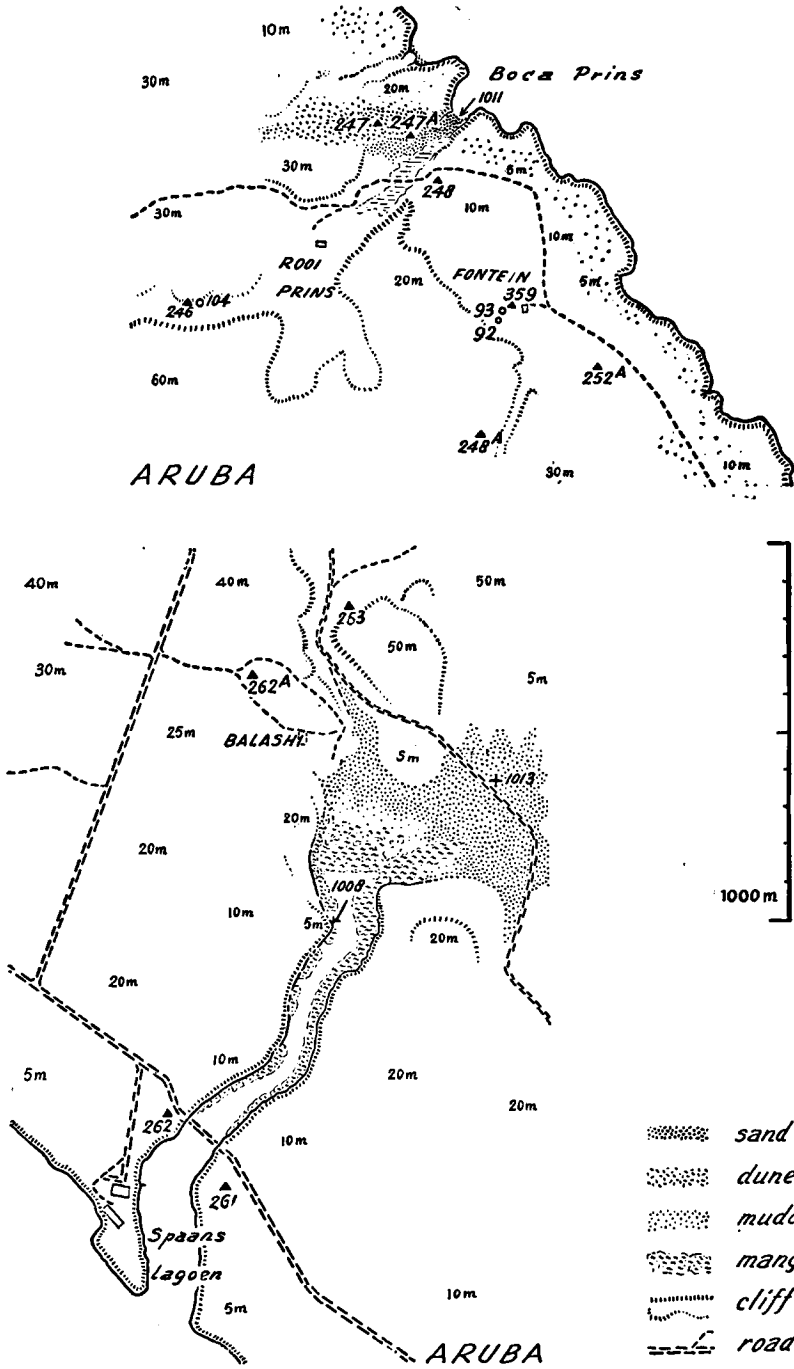


Fig. 4. Fontein and Rooi Prins, *Aruba*, with stations (from K.L.M. aer. phot., 1949).
Fig. 5. Spaans Lagoen and Balashi, *Aruba*, with stations (from K.L.M. aer. phot., 1949).

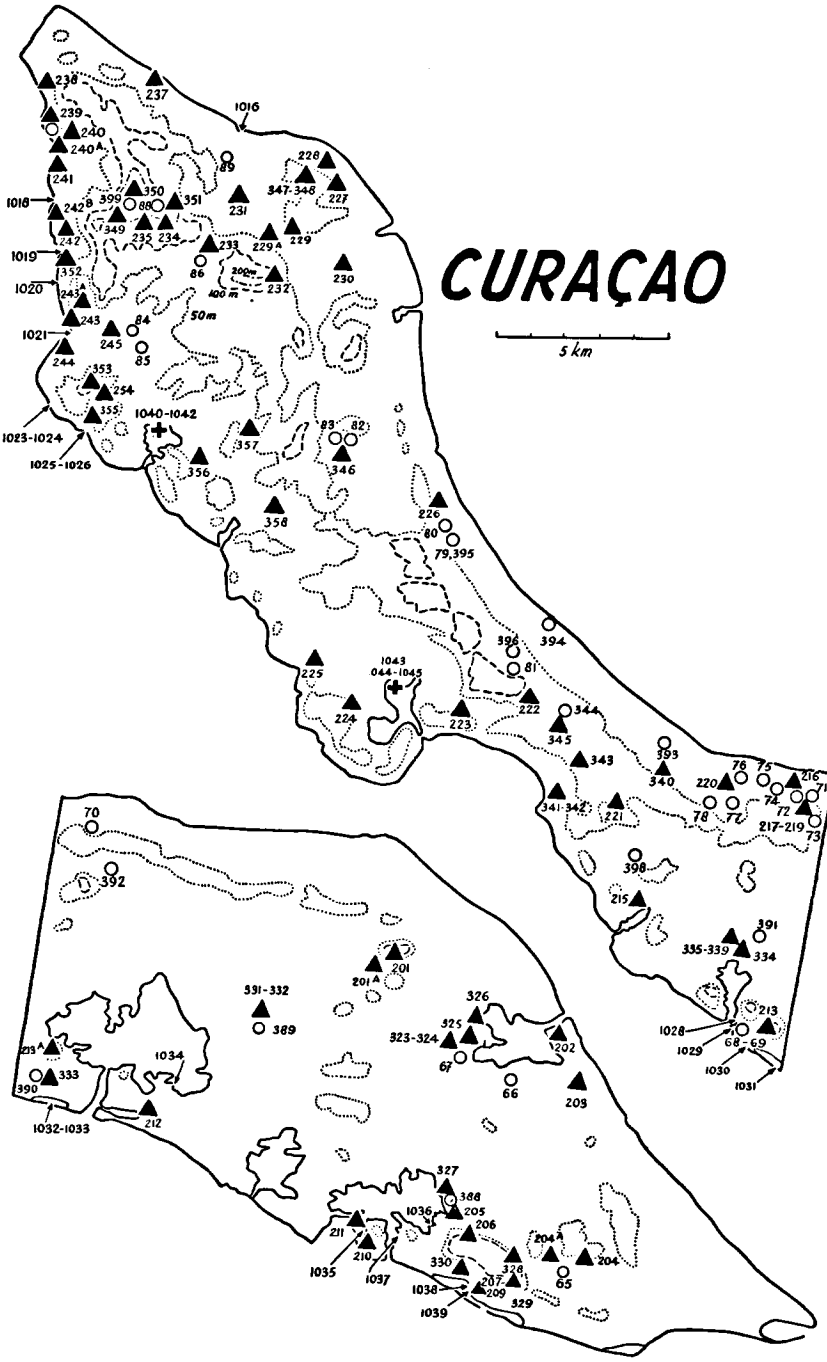


Fig. 6. *Curaçao*, with stations; contour intervals of 50, 100, and 200 m (from Neth. Govern. maps).

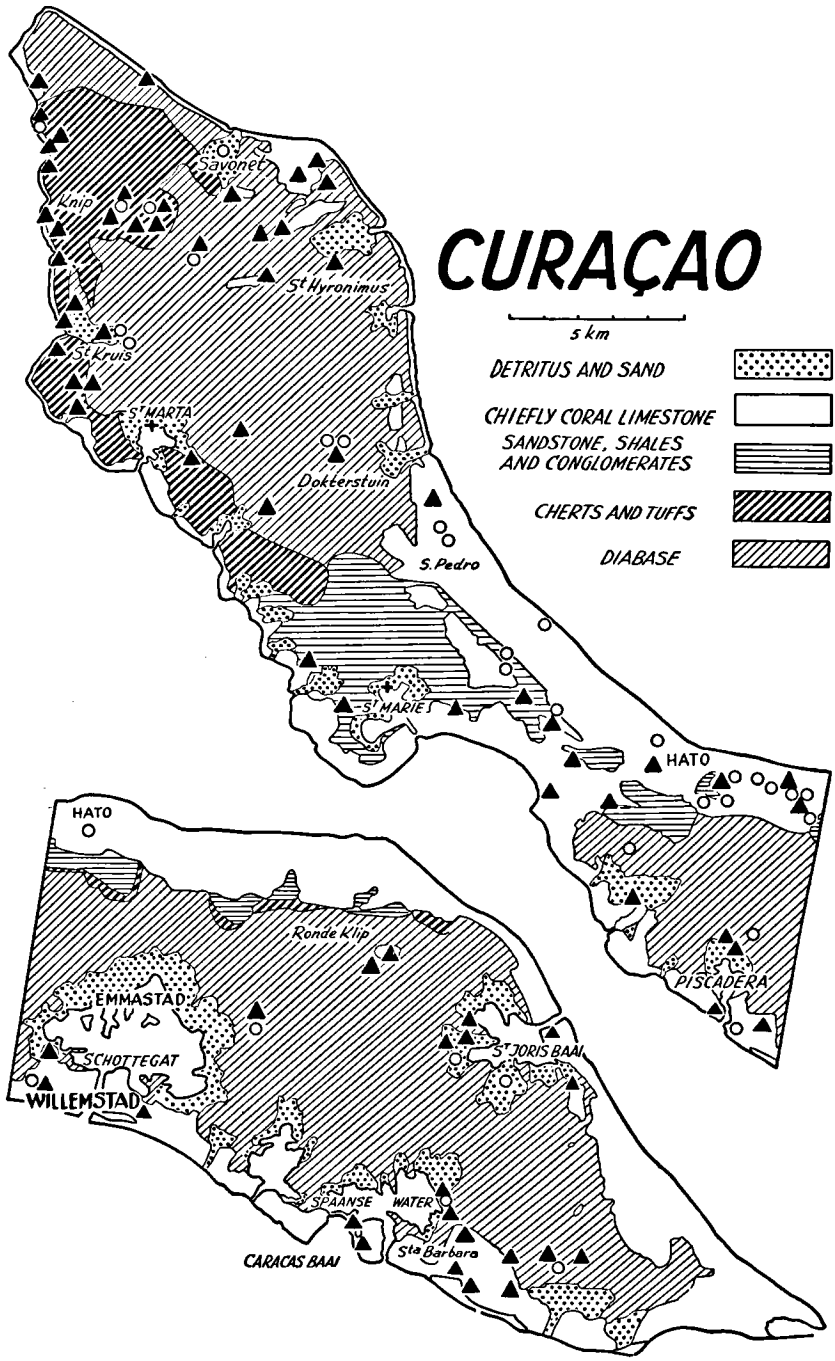


Fig. 7. *Curaçao* (chiefly from G. J. H. MOLENGRAAFF's geol. map).

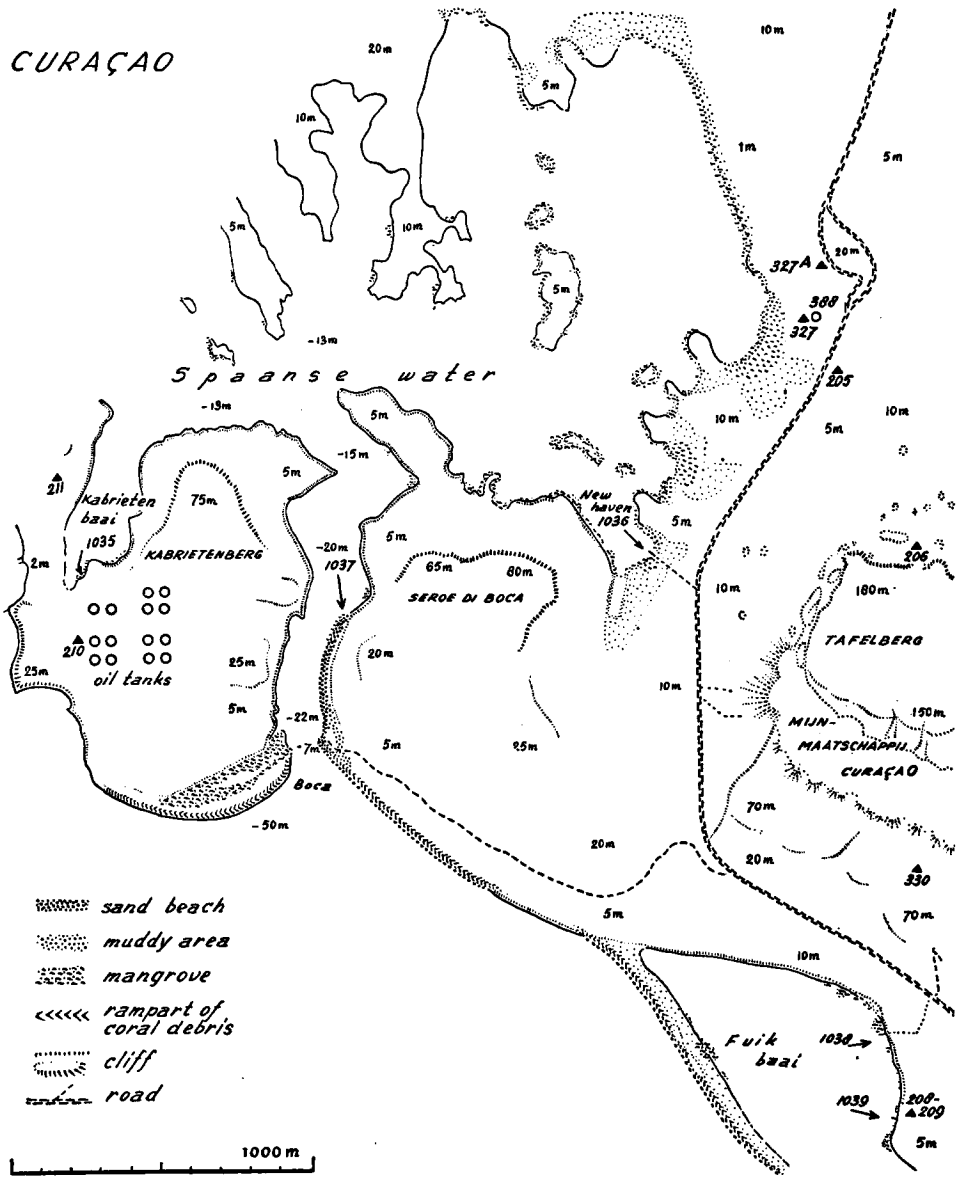


Fig. 8. Spaanse Water and Fuik Baai, *Curaçao*, with stations (from K.L.M. aer. phot., 1949).

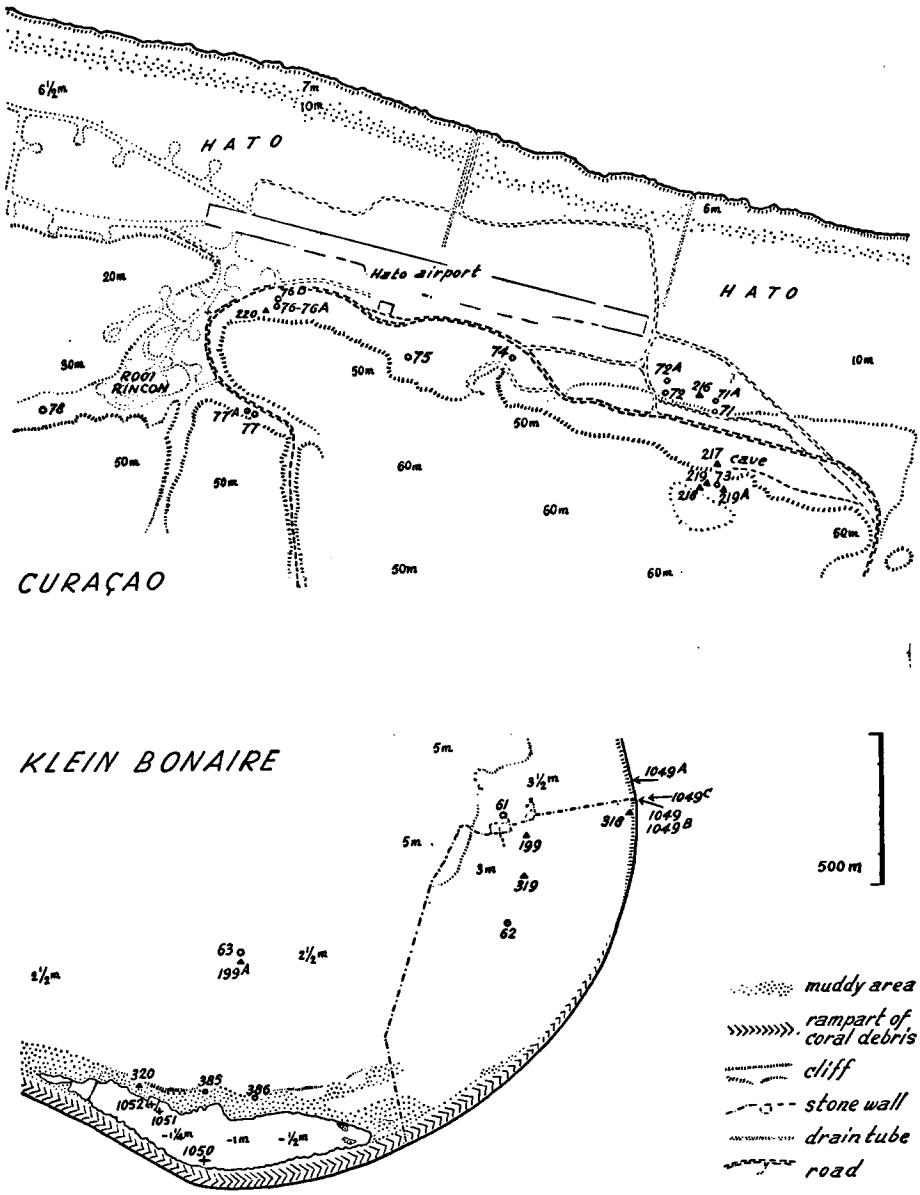


Fig. 9. Hato, *Curaçao*, with stations (from K.L.M. aer. phot., 1949).
Fig. 10. Southeastern part of *Klein Bonaire*, with stations (from K.L.M. aer. phot., 1949)

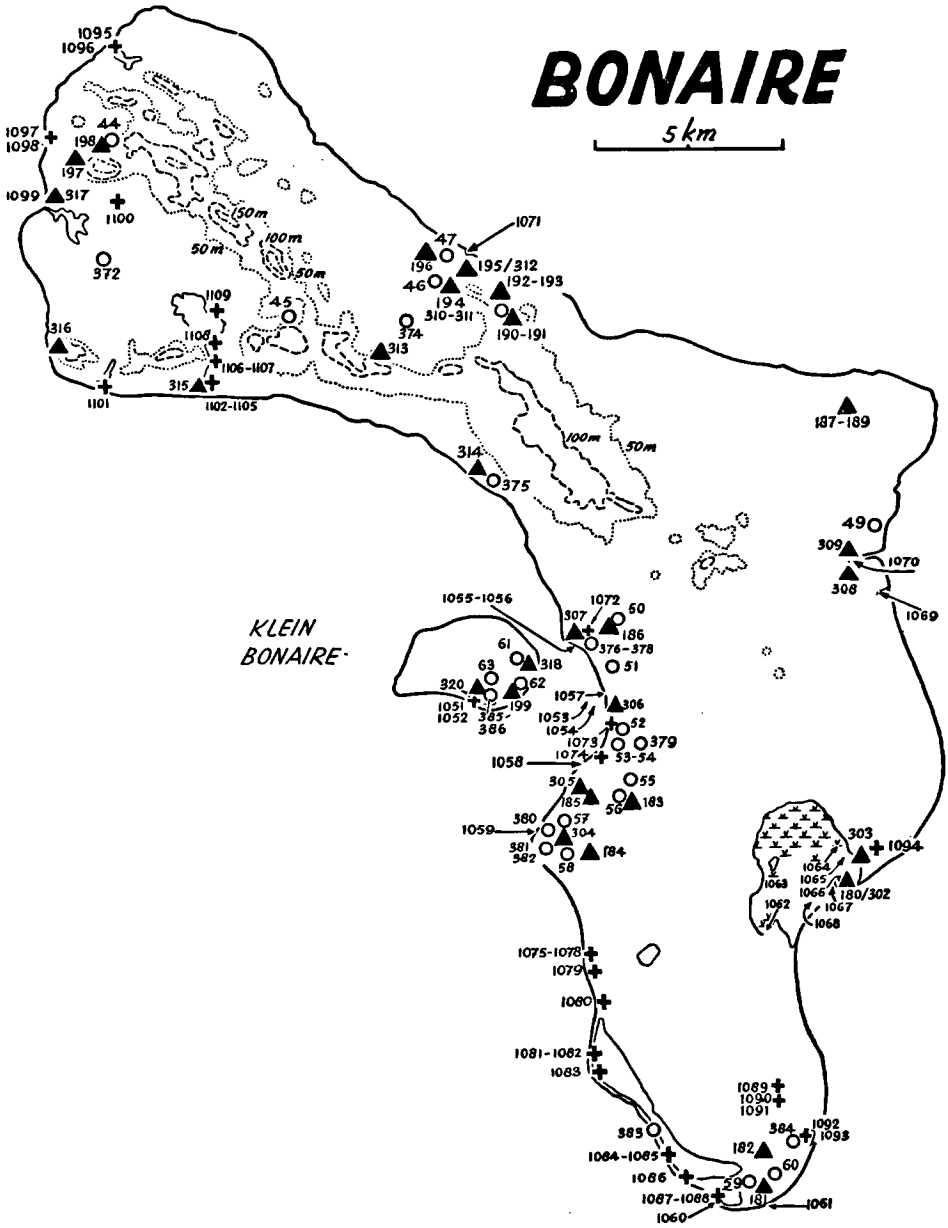


Fig. 11. *Bonaire,* with stations; contour intervals of 50, 100, and 150 m (from Neth. Govern. maps).

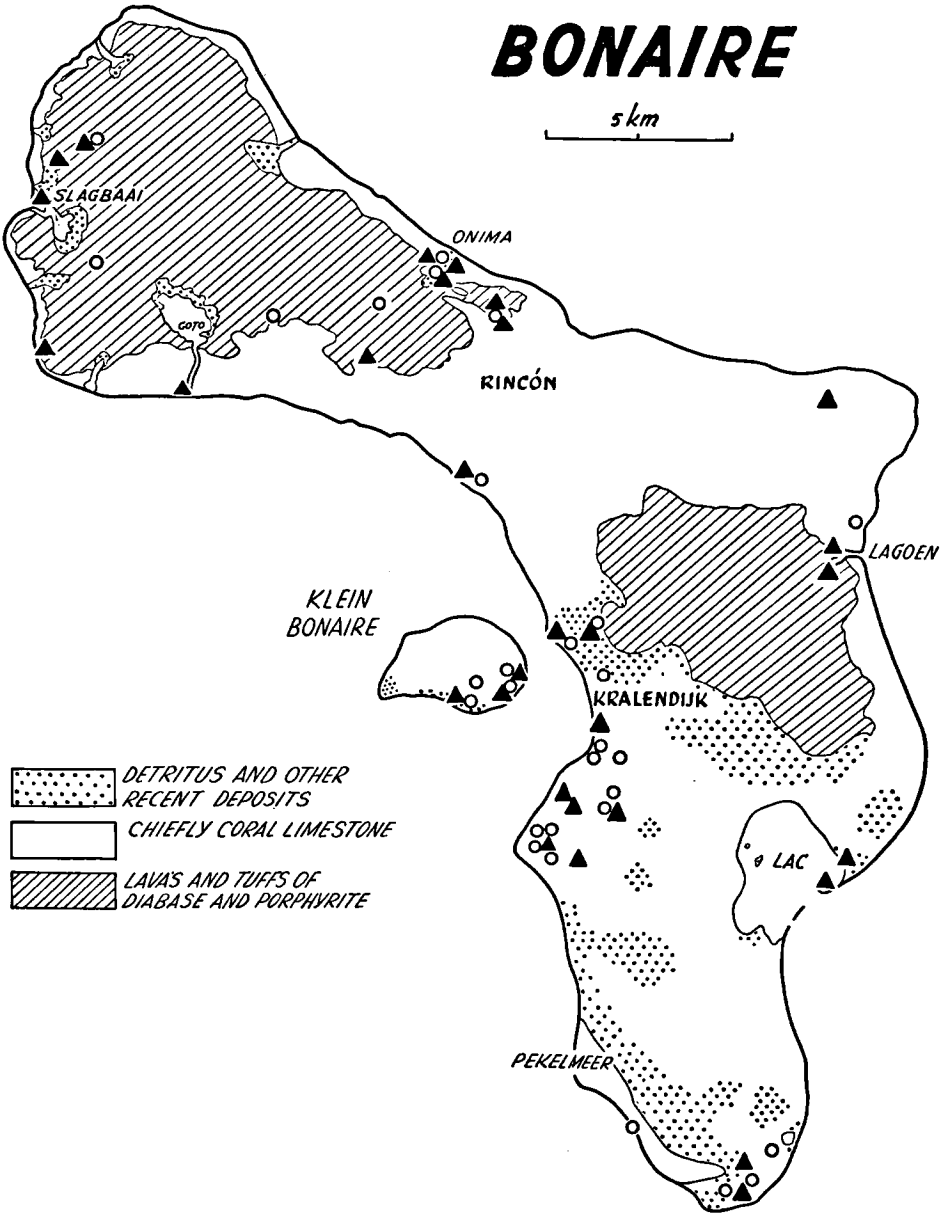


Fig. 12. *Bonaire* (from PIJPERS' geol. map).

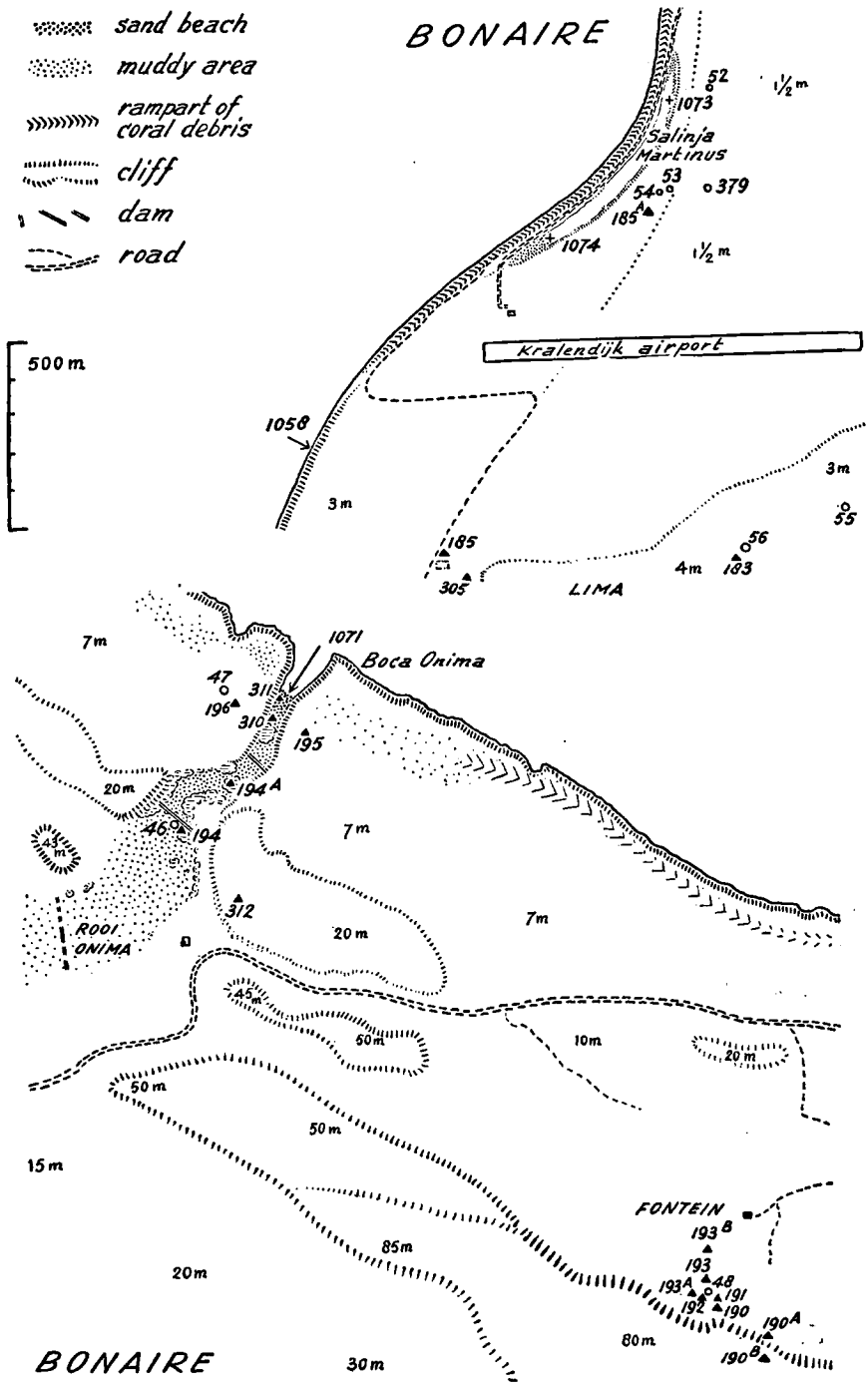


Fig. 13. Region South of Kralendijk, *Bonaire*, with stations (from K.L.M. aer. phot., 1949).
Fig. 14. Fontein and Rooi Onima, *Bonaire*, with stations (from K.L.M. aer. phot., 1949).

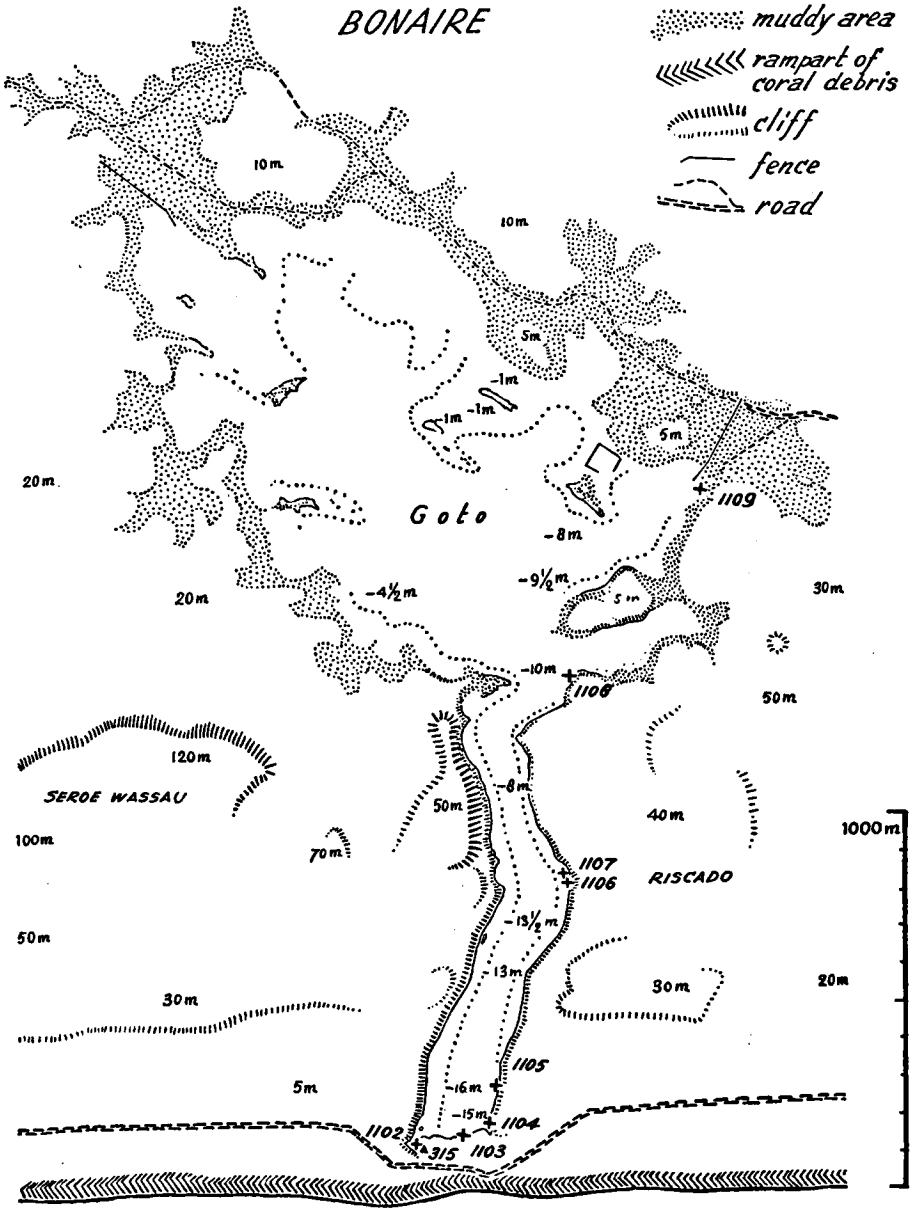


Fig. 15. Salt lake of Goto, *Bonaire*, with stations; shallow water roughly indicated by contour of about 3 (N.part) — 5 (S.part) m deep (from K.L.M. aer. phot. 1949).

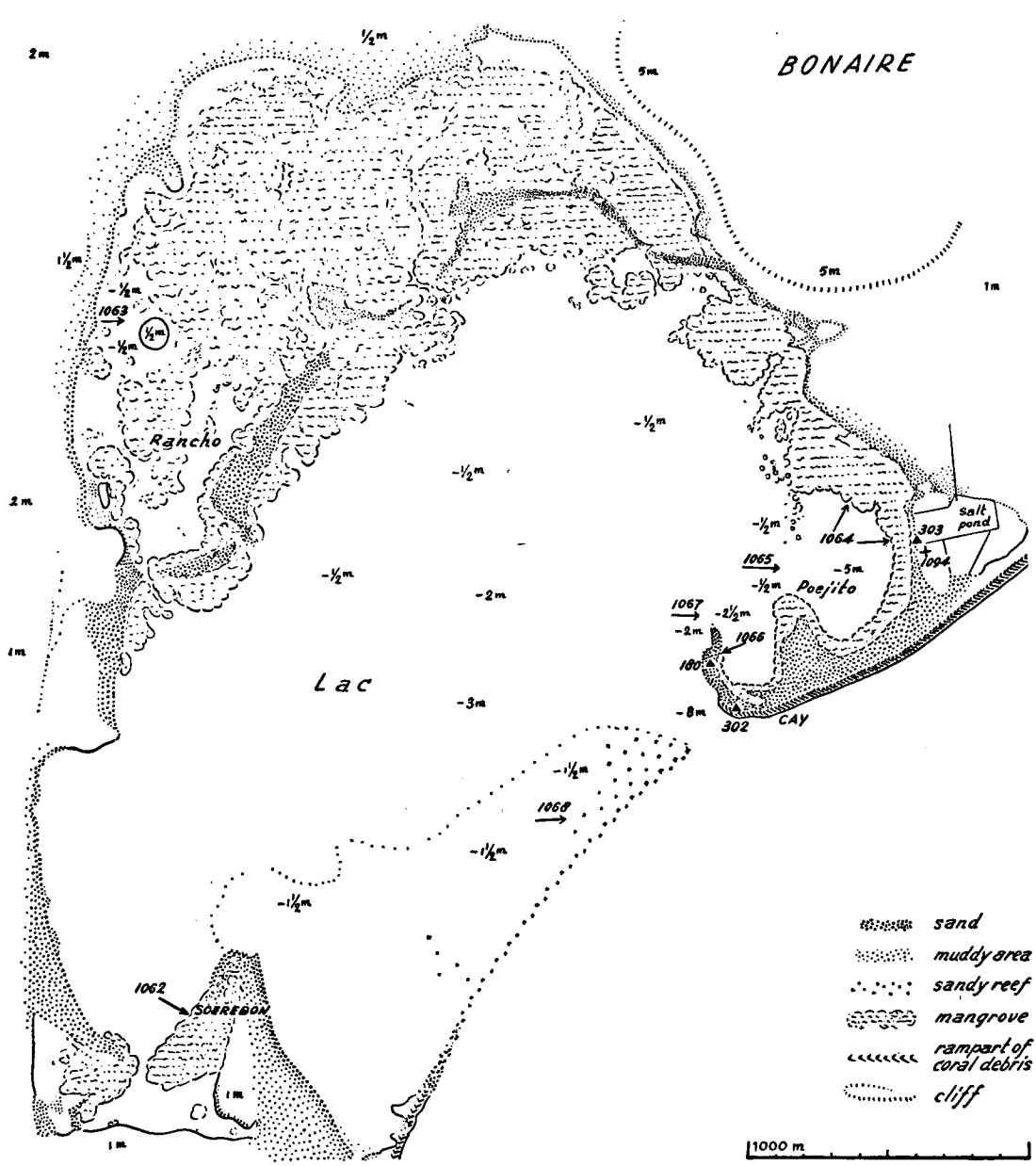


Fig. 16. Lagoon of Lac, *Bonaire*, with stations (from K.L.M. aer. phot., 1949).

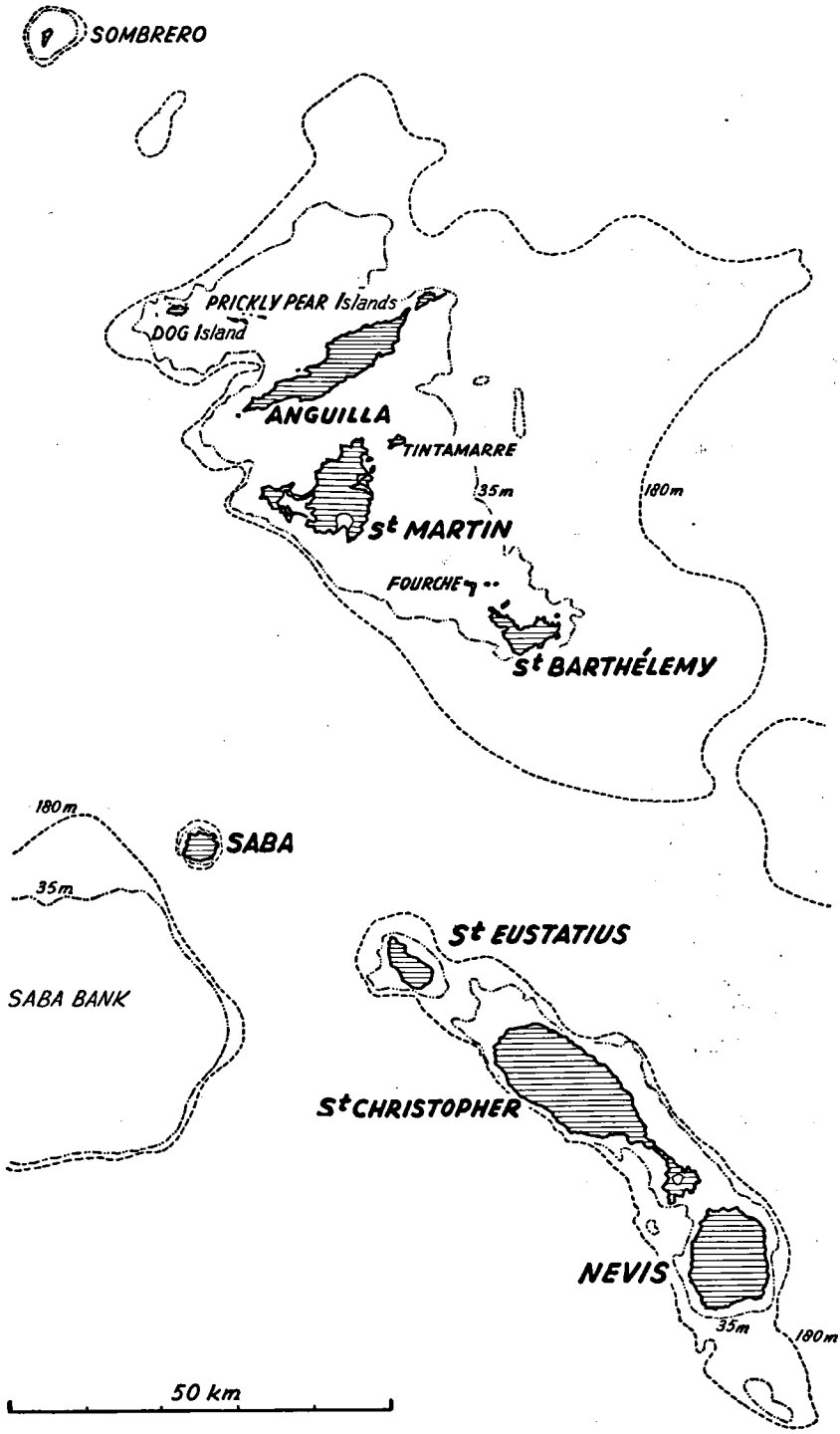


Fig. 17. The islands of the *Windward Group* where material has been collected; contour intervals of about 35 and 180 m deep (from U.S. Hydr. Off. Charts). Islote Aves is situated somewhat more than 200 km S of Saba.

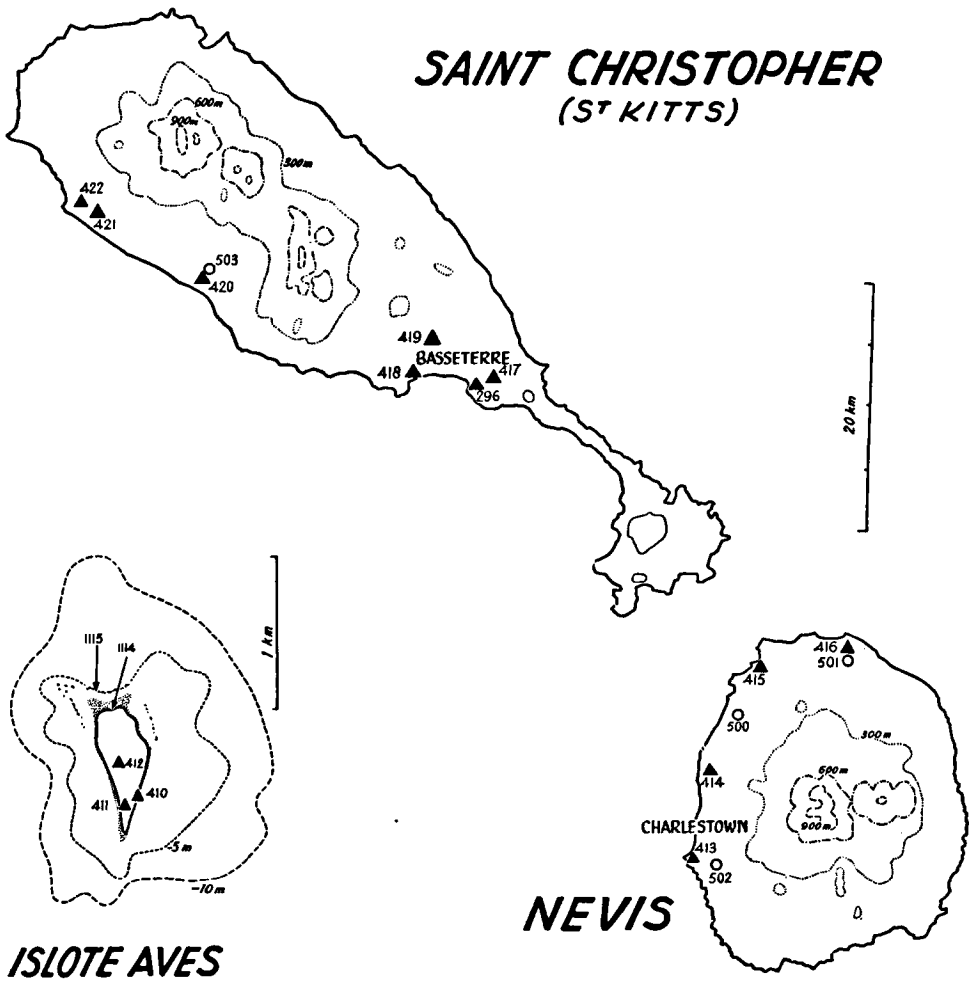


Fig. 18. *Islote Aves*, with stations; contour intervals of approximately 5 and 10 m deep (from U.S. Hydr. Off. Charts).

Fig. 19. *St. Kitts – Nevis*, with stations; contour intervals of 300, 600 and 900 m (from U.S. Hydr. Off. charts).

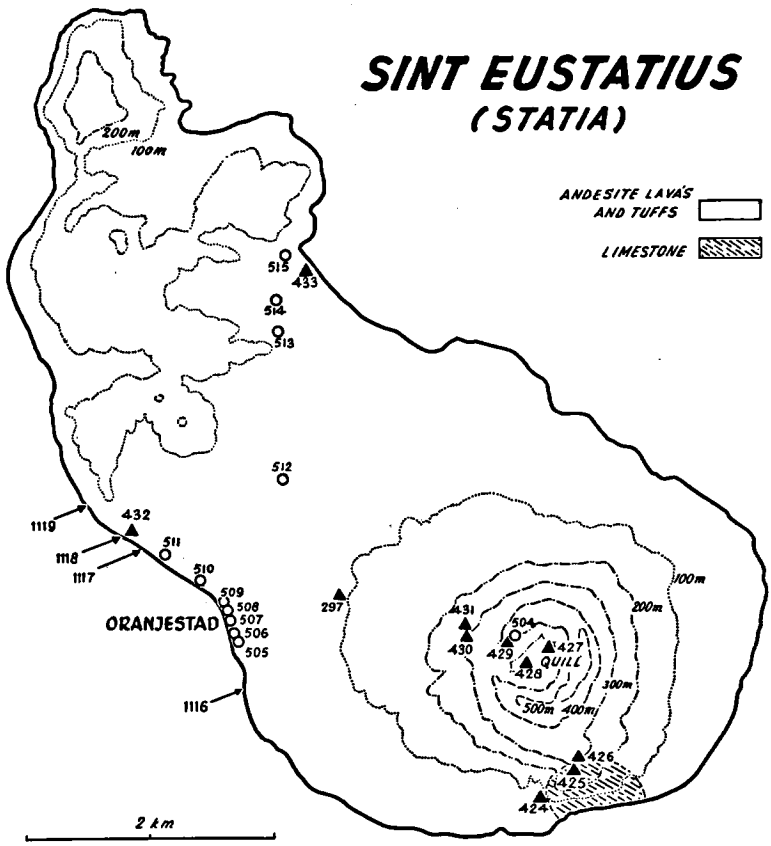


Fig. 20. *St. Eustatius*, with stations; contour intervals of 100, 200, 300, 400 and 500 m (from Neth. Govern. maps).

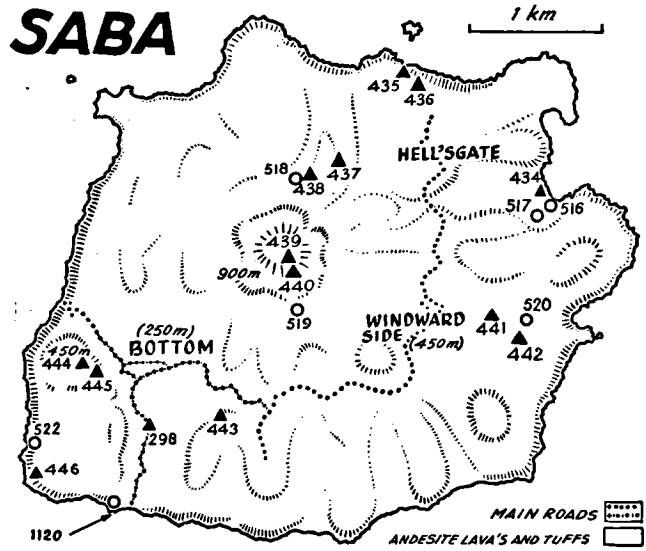


Fig. 21. *Saba*, with stations (contour from a map by Governor M. L. STATIUS VAN EPS, 1883).

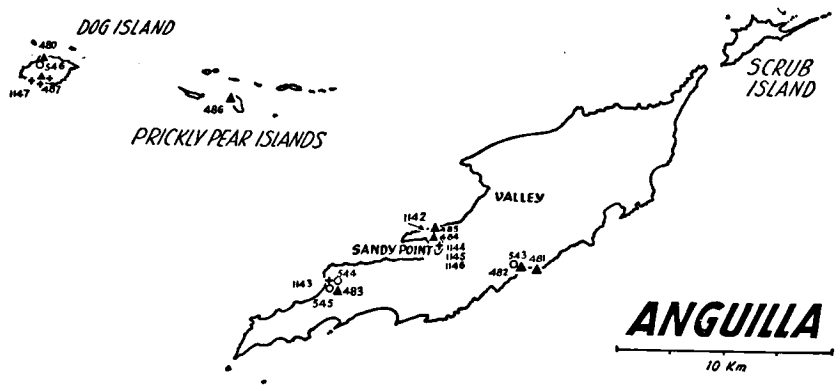


Fig. 22. *Anguilla* and neighbouring islands, with stations (from U.S. Hydr. Off. charts).

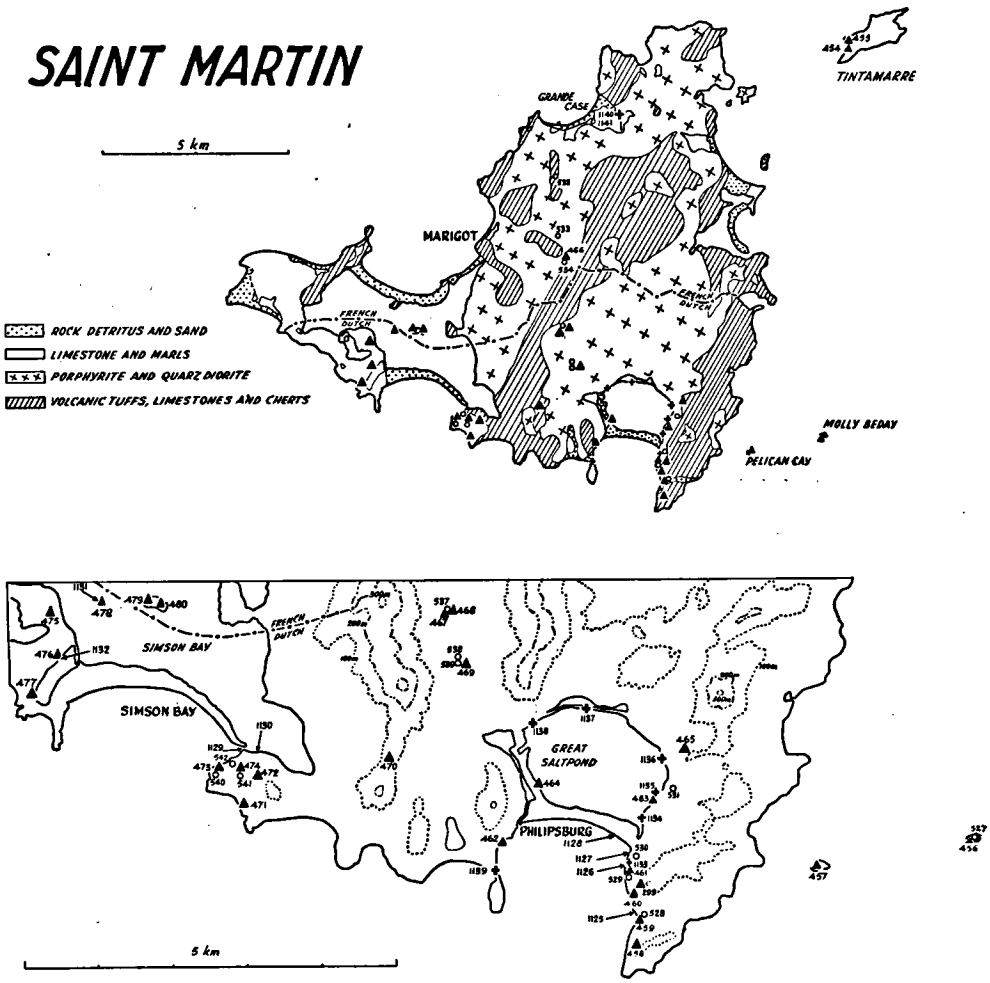


Fig. 23. *St. Martin* and neighbouring islands, the French part with stations (from CHRISTMAN's geol. map).

Fig. 24. Southern part of *St. Martin*, with stations; contour intervals of 100, 200 and 300 m (from Neth. Govern. maps).

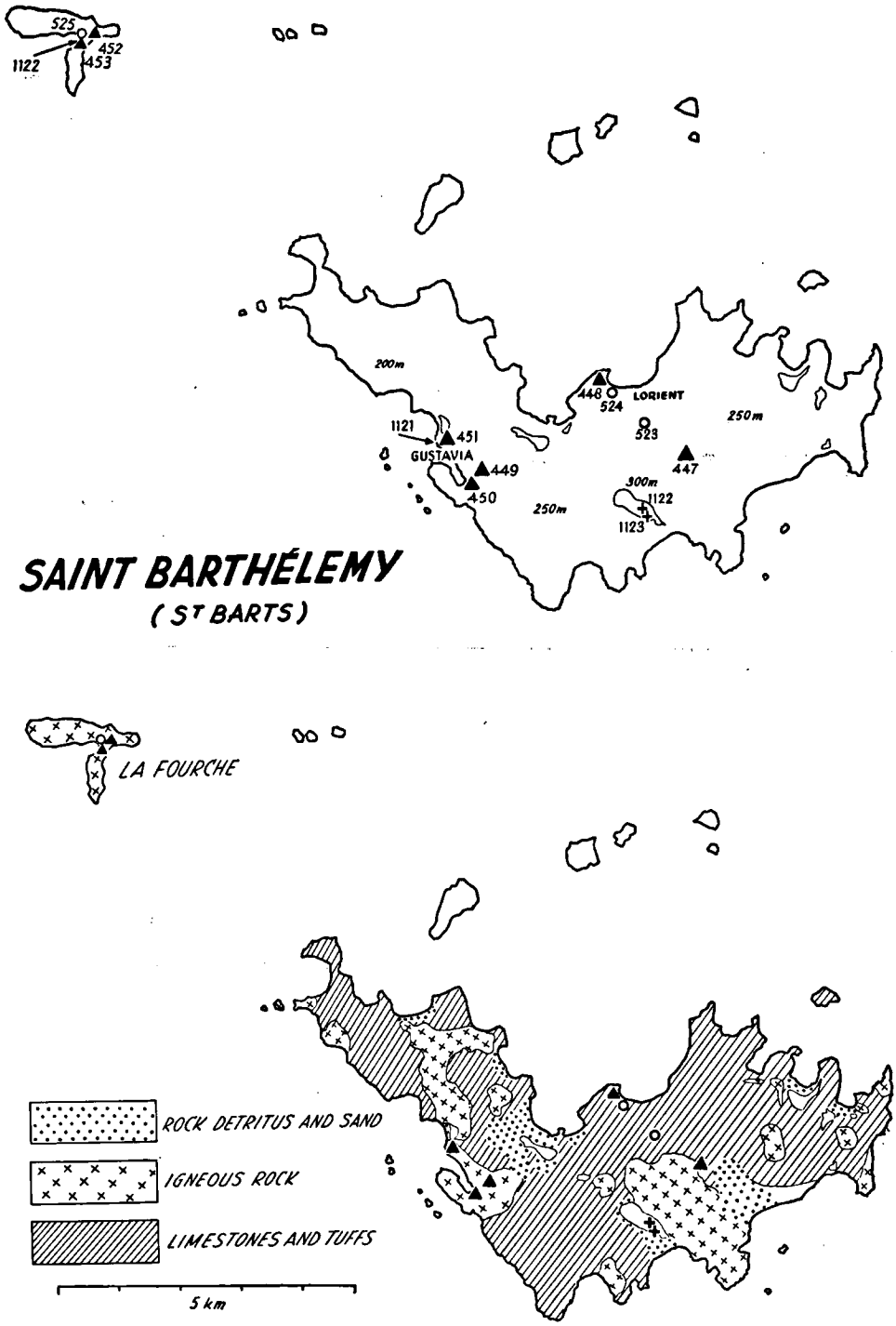


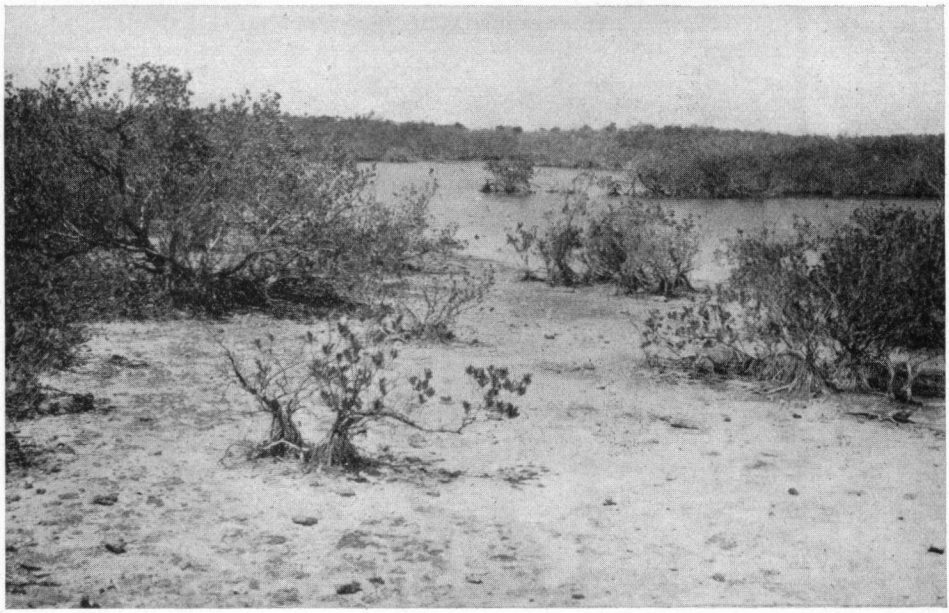
Fig. 25. *St. Barts* and neighbouring islands, with stations (from a map based on French aerial photographs).

Fig. 26. *St. Barts* (from CHRISTMAN's geol. map).

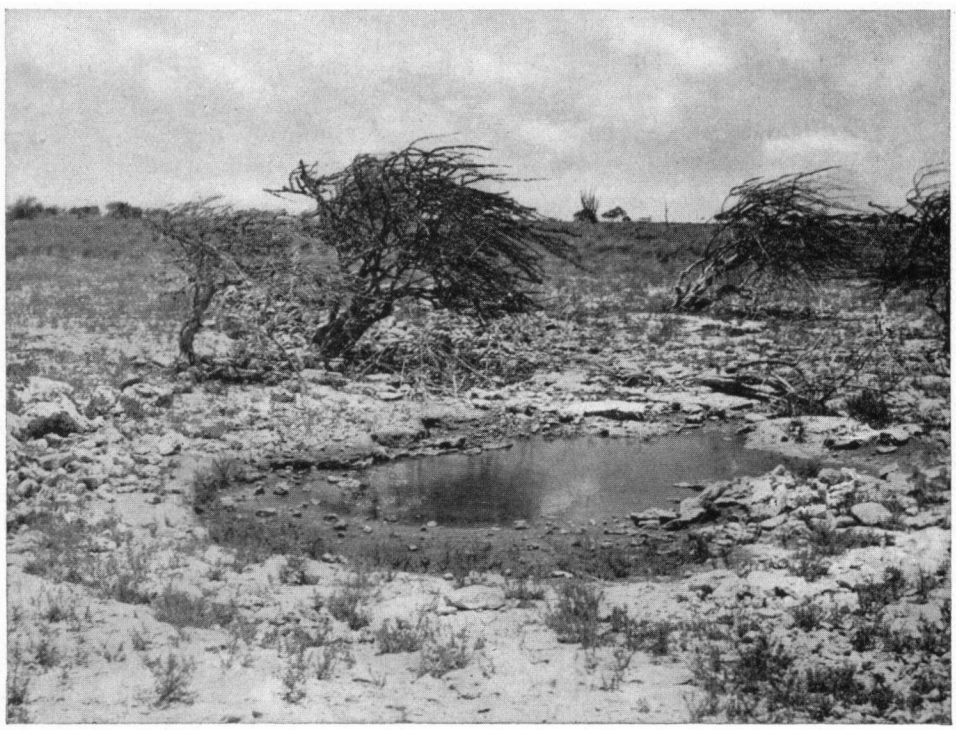
I*a*. Small coconut grove near Groot Piscadera (Sta. 334), C u r a ç a o.

I*b*. Looking northwestward, towards the sea shore, across Nelson's Spring (Sta. 500), a fresh water lagoon in the island of N e v i s.

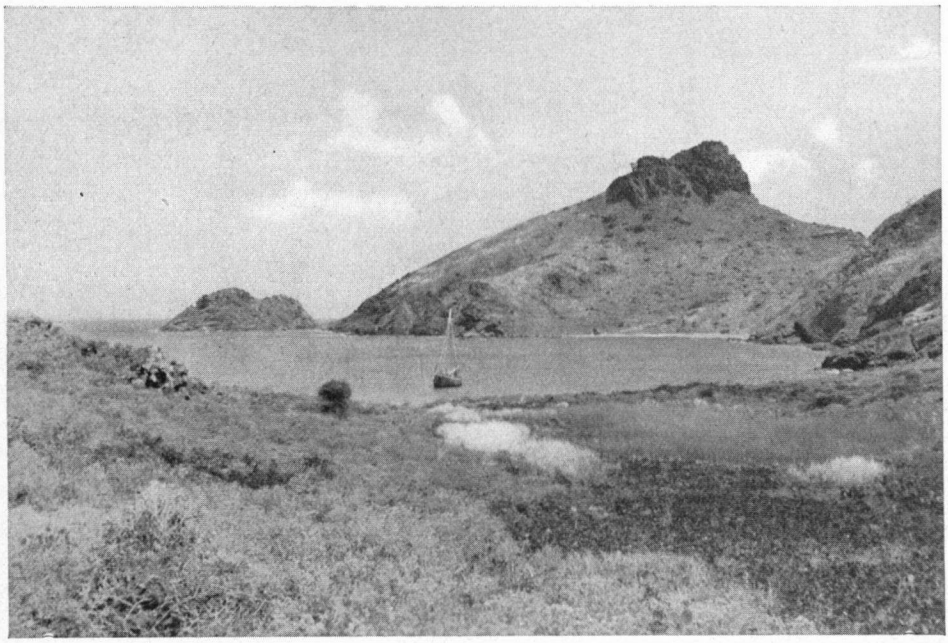
PLATE II



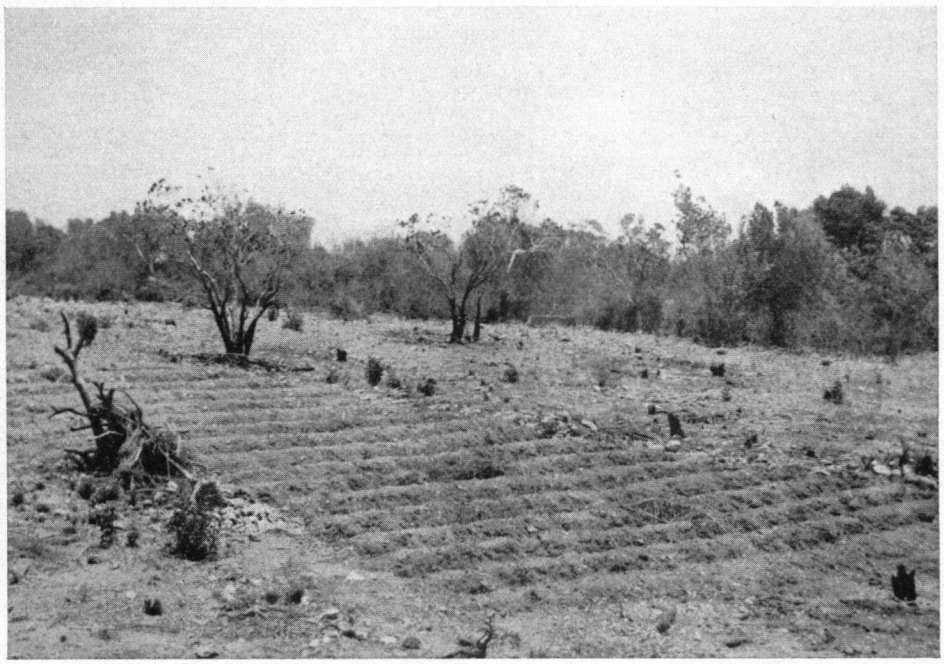
II*a*. Low limestone plateau near Punt Vierkant, Bonaire, with *Conocarpus*, flooded after rains. Ten days ago, the foreground (Sta. 382) — a greyish mud with tufa deposits — was still covered with brackish water.



II*b*. Tanki Calbas (Sta. 63), after rains a large brackish pond, in dry season a small oversalted pool (as figured), bordered by some *Crescentia*, in a depression of the low limestone plateau of Klein Bonaire.



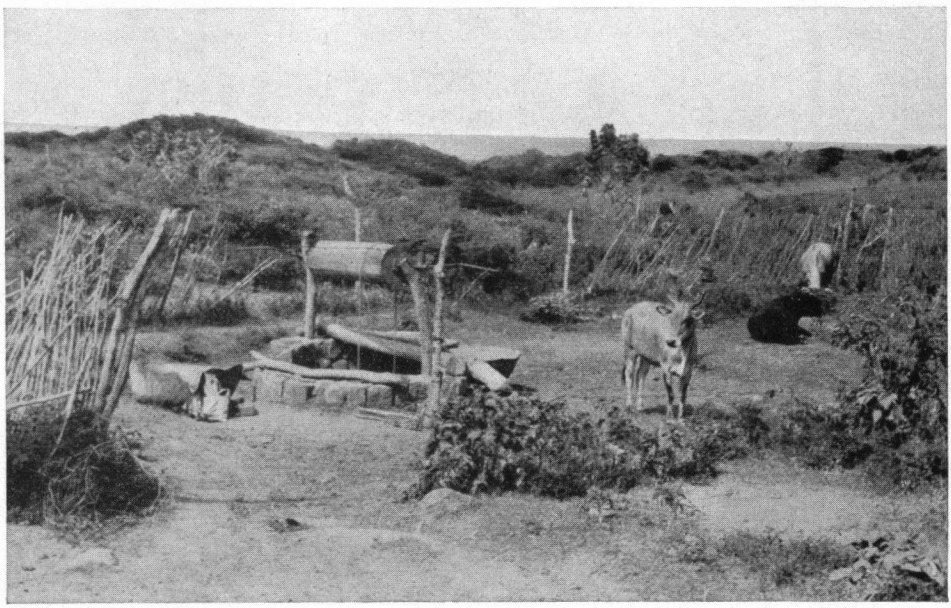
III*a*. Central depression on the small island of La Fourche (Sta. 452 b.r.), looking southeastward towards the Five Island Bay; lowest part with *Ipomoea* (b.r.), *Cyperus* (c.r.) and grasses; higher parts with scanty shrubs and cactuses.



III*b*. Partly cleared field for cultivating corn and beans on the flat, bush-covered limestone hills near Flamingo Pond (Sta. 475 r.c.), St. Martin.

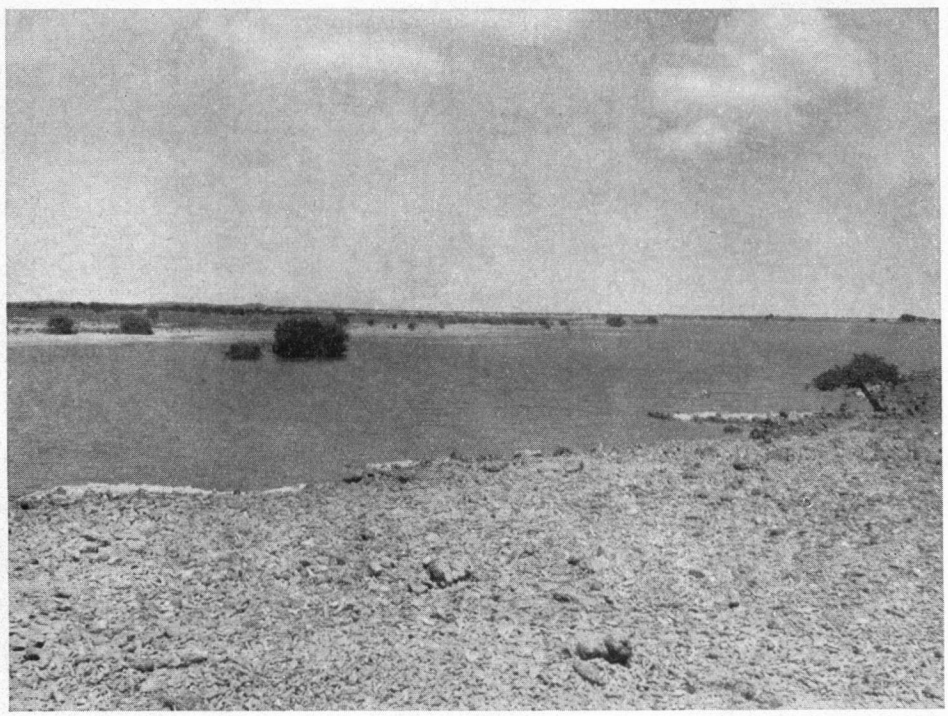
PLATE IV

IV*a*. The Manahega well (Sta. 506), recently constructed near one of the numerous old cisterns among the ruins of Down Town, St. Eustatius, covered with felled *Hippomane* trees.



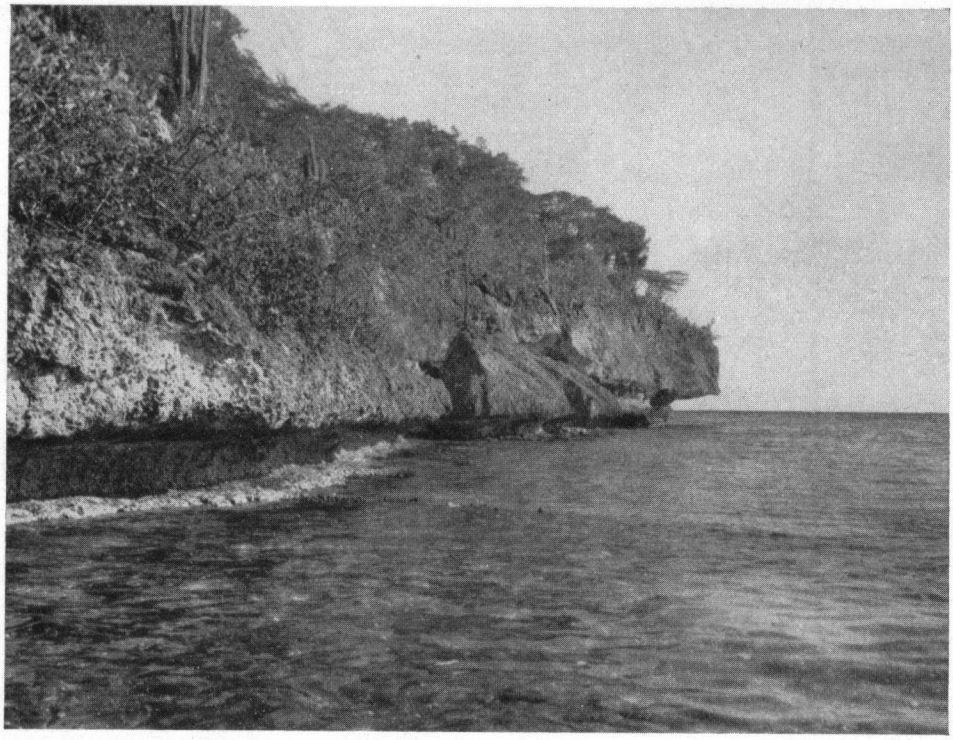
IV*b*. A deep well at Zeelandia (Sta. 514), St. Eustatius.

V*a*. The Great Saltpond, St. Martin, as seen towards the North West, with the cemented trough (Sta. 1134) once used as a mosquito-fish nursery; vegetation chiefly consisting of *Batis maritima*.

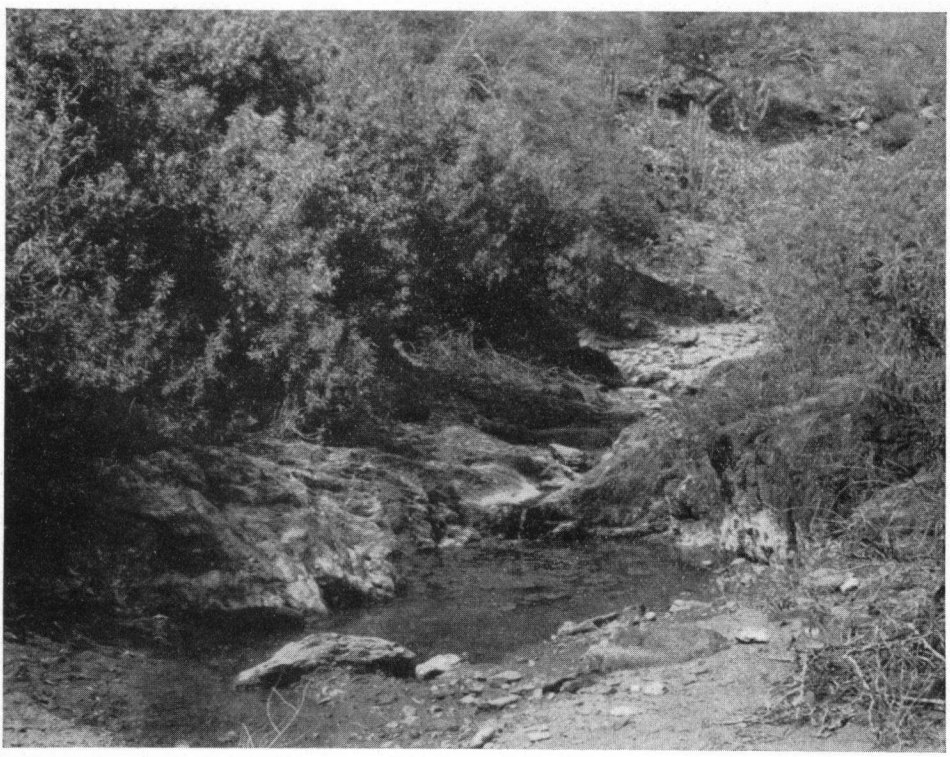


V*b*. The Salinja of Klein Bonaire, looking eastward, from the top of the porous wall of coral debris which separates this salt lake from the sea; bordered with scattered small trees of *Bontia* (l.c.), *Rhizophora* (c.) and *Conocarpus* (r.c., Sta. 1050). A small, abandoned saltpan (Sta. 1051–1052) may be observed in the center at landside.

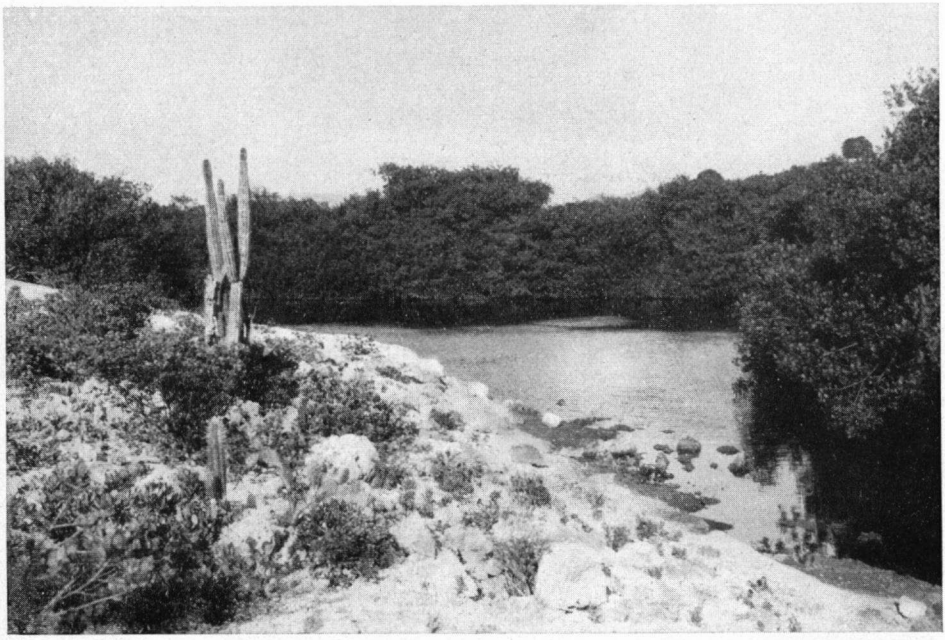
PLATE VI



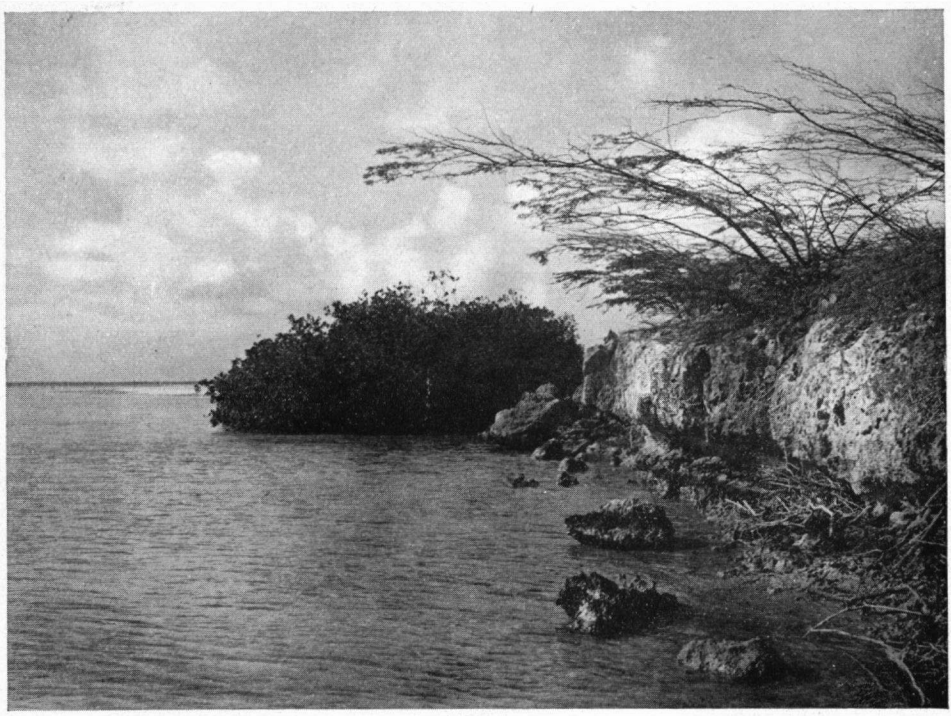
VI*a*. Limestone cliff South of Playa Hulu (Sta. 1024), West coast of C u r a ç a o; the notch quite visible at low tide.



VI*b*. Fresh water pool (Sta. 104B) near the spring of Rooi Prins, A r u b a, bordered by some trees of *Bontia*, fed by a small cascade (Sta. 104A) of 30 cm.



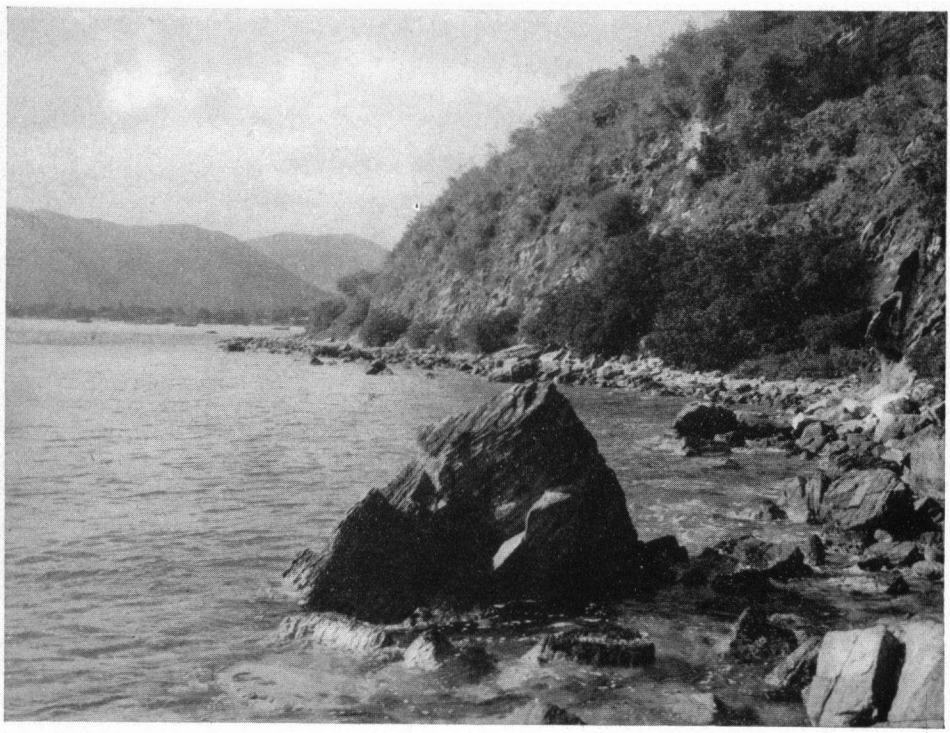
VII*a*. Northwest corner of the muddy Spanish Lagoon (Sta. 1008), A r u b a, with *Rhizophora*, bordering on a limestone plateau with a scanty vegetation with conspicuous *Lemaireocereus*.



VII*b*. Limestone cliff at the muddy lagoon of Bucuti, near Fofoti (Sta. 1004), A r u b a. The shore and the roots of *Rhizophora* are dirtied by oil residue near the water line; the notch lies abour 30 cm above mean sea level owing to a subrecent upheaval of the island coast; the s mall *Acacia* trees on the limestone plateau are deformed by the eastern trade-wind.

PLATE VIII

VIII*a*. South coast of Saba, at the West side of Fort Bay (Sta. 1120); andesitic rock.



VIII*b*. East coast of the Great Bay, near the Point Blanche peninsula (Sta. 1126), St. Martin; formation of tuffs, limestones and cherts.