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STUDIES ON THE FAUNA OF CURAÇAO AND OTHER CARIBBEAN ISLANDS: No. 192

LAND AND FRESH-WATER LOCALITIES

by

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Many years have passed since short descriptions were published of the land and fresh & brackish-water habitats sampled in the Caribbean during the author's three zoological collecting trips in 1930, 1936/37, and 1948/49 (these *Studies*, vols. *1* and *2*, 1940, and vol. *4*, 1953). Sampling was continued in 1955, 1963/64, 1967, 1968, 1970 and 1973. Data on the marine and saltpond habitats from which material was gathered were published in *Studies 51*, 1977.

Collecting was done single-handed and often rather incidentally, as a rule with no other equipment than a knife, forceps, a beetle-sieve and a fine-meshed dip-net, the author confining himself to those places which presumably would yield a more or less representative sample within a short time. Yet, the material may justify the publication of this list of localities.

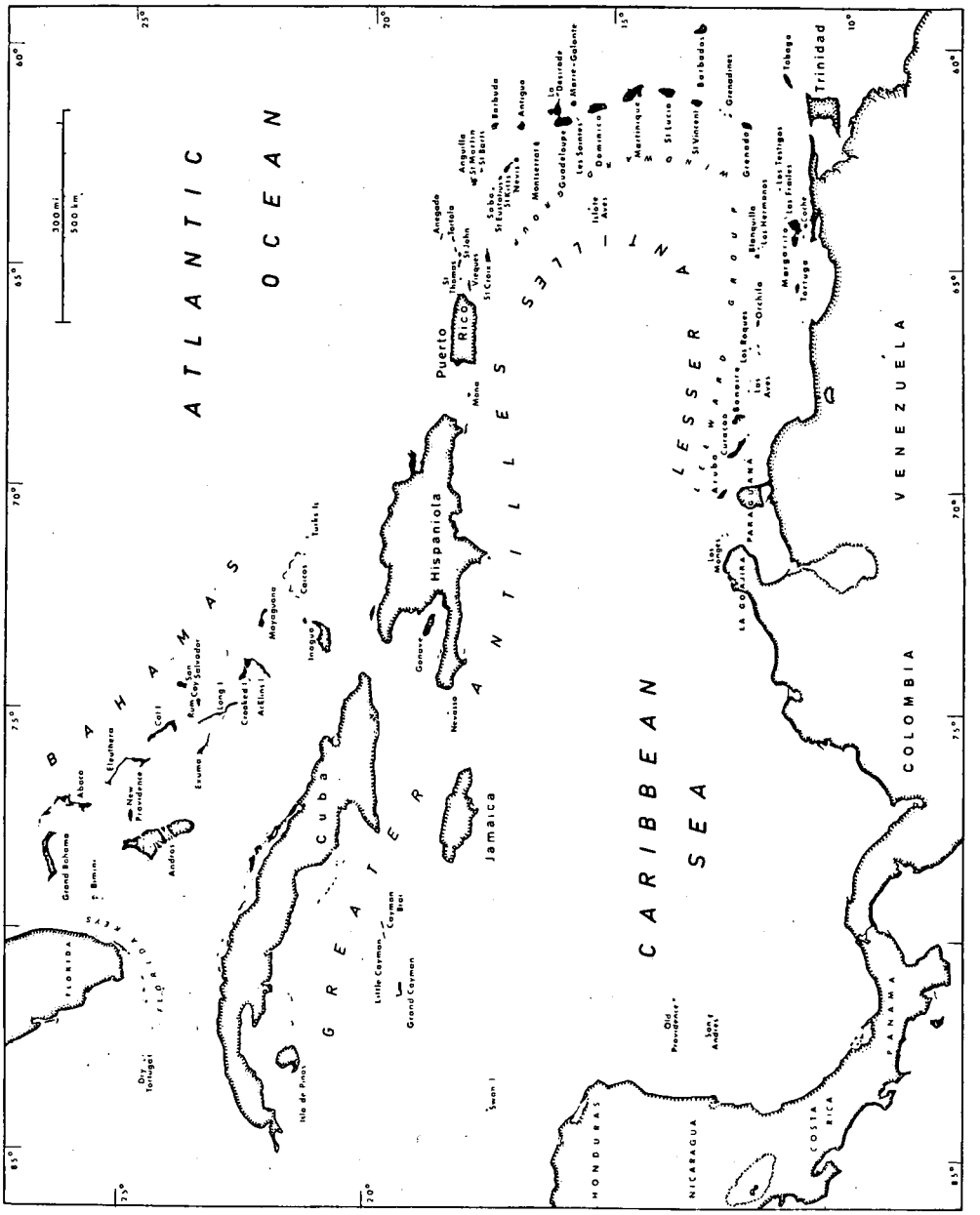

Fig. 1. Sketch-map of the CARIBBEAN REGION.

Because of the restricted and primitive way of collecting, certain spectacular groups of animals – such as birds and butterflies – are absent, while others are only poorly represented and often badly preserved. The author fully realises his shortcomings but trusts that the results of his collecting work will induce specialists to pay more attention to the interesting fauna of the semi-arid Caribbean environments, easily accessible and proving to be much richer in species and specimens than expected at first view.

Several localities were visited more than once, to get an impression of seasonal and long years' changes. As was to be expected the most stable environments were habitats permanently in contact with cavern water or – more rarely – with subterranean waters in non-calcareous areas; unstable habitats were mostly found in localities dependent on scarce and often erratic rains.

In the SYNOPSIS the Land Habitats are roughly arranged according to characteristics such as rainfall, exposure and subsoil. The Fresh and Brackish-water Habitats are mainly grouped as to permanency, water movement and salinity.

The REFERENCES include all publications dealing with the material collected. Several groups of animals have not yet met sufficient interest to warrant scientific study, or are stuck in the hands of specialists. All samples left – until now stored in the Zoological Laboratory of the Utrecht University – will within a few years be transferred to the State Museum of Natural History (Rijksmuseum van Natuurlijke Historie) at Leiden.

The "ACKNOWLEDGEMENTS" are much the same as those in the introduction to the "Marine Localities" (1975, p. 2). Yet, the author would like to mention here with gratitude prof. dr. CHR. P. RAVEN's decision (at that time director of the Zoological Laboratory) to incorporate the work of the Foundation for Scientific Research in Surinam and the Netherlands Antilles (Natuurwetenschappelijke Studiekring voor Suriname en de Nederlandse Antillen) in the curriculum of the Zoological Laboratory of the State University at Utrecht; thus he promoted the development of a modest centre of faunistic research within a zoological institute that, before, never showed much taxonomic interest with regard to the Tropics.

Above all the author blesses the good fortune of having had parents who enabled him to make his first collecting trips, while in later years his wife never discouraged his Caribbean enterprises, which often implied long absences.

Persons to whom the author is indebted with regard to his collecting activities and who have not been mentioned in previous acknowledgements (1933, 1940, 1953, 1977) include in particular:

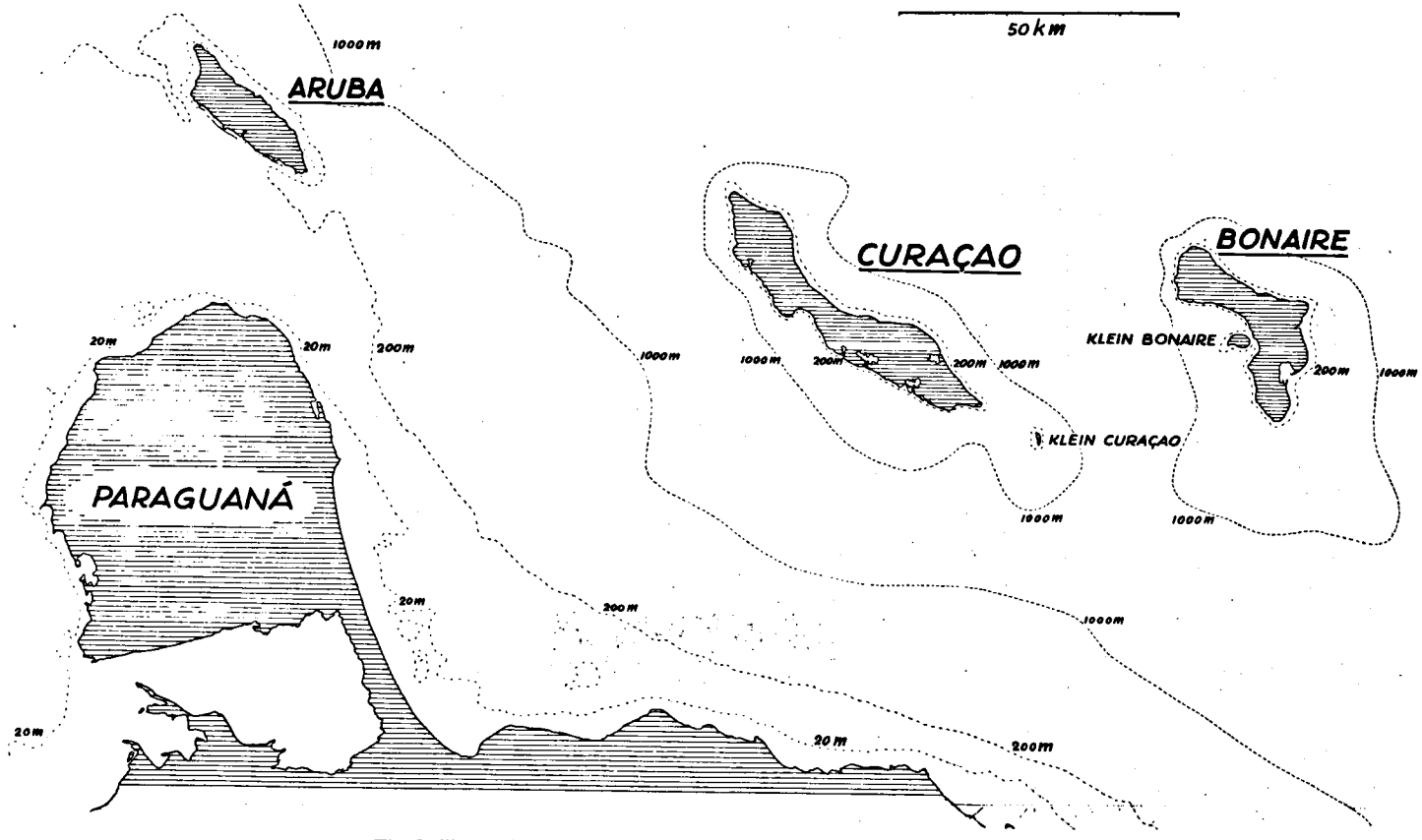

Fig. 2. The Netherlands Antilles of the LEEWARD GROUP, north of Venezuela.

Dr. M. E. C. GIGLIOLI, who offered laboratory facilities on Grand Cayman, and MIKE NATHAN and FLOYD BANKS who were of much help on Cayman Brac and Little Cayman, respectively.
Prof. dr. IVAN GOODBODY, who arranged the author's stay at the Zoological Department of the University of the West Indies in Jamaica.
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Dr. INGVAR KRISTENSEN, director of the Caribbean Marine Biological Institute, Curaçao, who motivated so many people on behalf of the protection of nature; Curaçao also the island where the author found much support and friendship among the members of the Natural History Study Group, while also non-biologists proved to be nice companions.
The Veterinarian E. J. VAN DER KUIP's hospitality facilitated the author's work on Aruba in 1963. In later years several Aruba days were spent with Dr. and Mrs. P. BEERMAN.
Dr. WILLIAM PHELPS, Sr., took the author to Rancho Grande and introduced him to several Venezuelan colleagues, while Dr. D. C. GEIJSKES was an exellent guide in Suriname.

In 1968 a visit to Curaçao, Aruba and Bonaire was organized – in co-operation with the Department of Education at Curaçao – aiming at more interest among Netherlands University circles as regards the biology of the Netherlands Antilles.

Finally the author wishes to thank Drs. L. J. WESTERMANN – VAN DER STEEN for her pleasant collaboration; Dr. J. H. WESTERMANN, for critically reading parts of the manuscript; dr. H. A. TEN HOVE, and several other persons, for their interest and help when sorting the material.

In making the above acknowledgements it is, alas! impossible to mention by name all the personal connections, acquaintances and friends who helped the author in carrying out his plans. But this, of course, in no way detracts from his appreciation of their kindness.

Dr. JAN HUGO WESTERMANN, born 1 June 1907, died on the tenth of May 1981 – deeply regretted by Mrs. WESTERMANN – VAN DER STEEN, his two daughters, and his many friends, who will fondly remember him for his seemingly endless energy in the furthering of knowledge and for his stimulating criticism. He was, moreover, a true and trusted friend with a pleasant sence of humor and a zest for life.

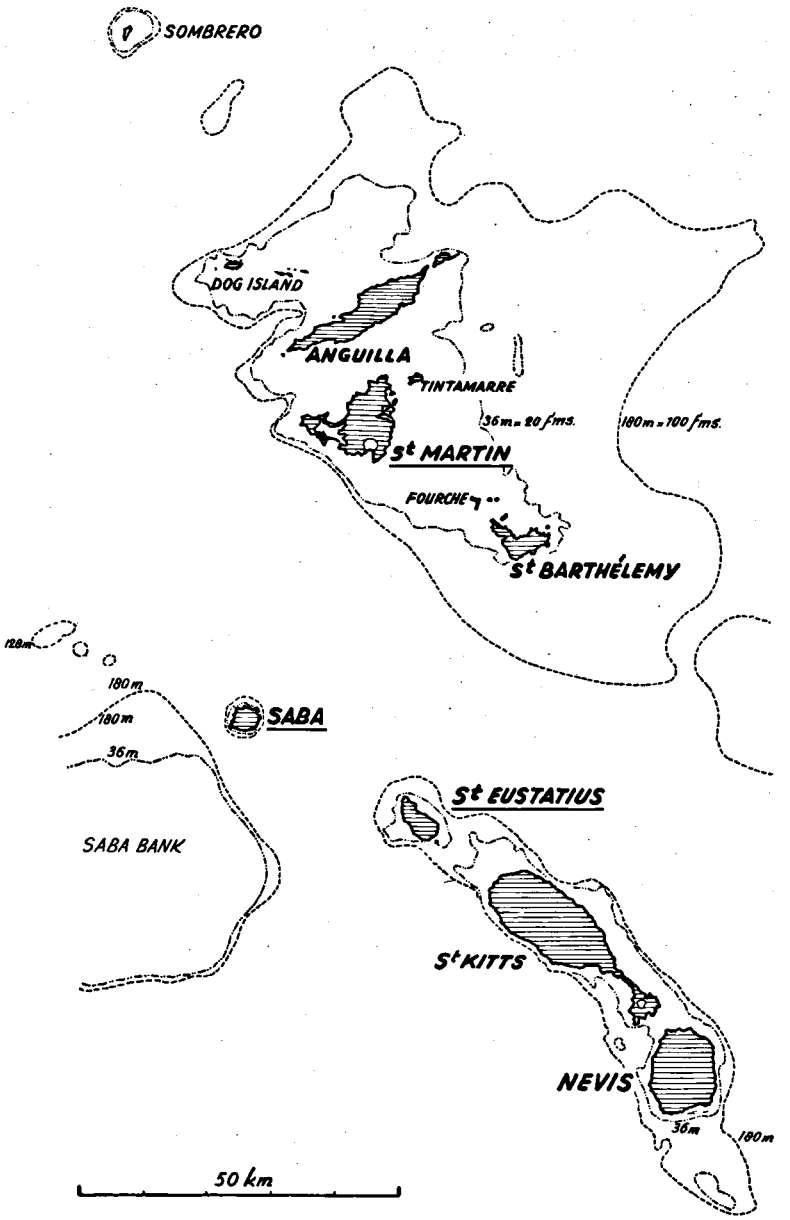

Fig. 3. The Netherlands Antilles of the WINDWARD GROUP and adjacent islands.

Many islands of today are no longer the poorly known areas of the past when they were visited for the first time. Several of them have undergone economic development in recent years, to the detriment of nature.

There is a general process of landscape degeneration due to human activities, but the visitor is often more struck by the destruction of nature phenomena which would deserve to be kept as nature reserves, from a scientific and an esthetic point of view. Recently sacrified on the altar of economic development are the Tafelberg Santa Barbara on Curaçao, the Seroe Canashito on Aruba, and practically the whole of southern Bonaire. On the other hand human activities may also create new habitats of great biological interest, for example artificial pools, and wetlands, such as the artificial salina near Palm Beach in western Aruba.

It is gratifying that several initiatives to protect interesting or endangered regions were successful, such as the National Park Washington/Slagbaai in Bonaire, the Christoffel Park on Curaçao, and the Jamanota area of Aruba.

It is certainly true that our knowledge of the Caribbean fauna has increased considerably in recent years, but, generally speaking, this holds good with regard to the marine fauna and the vertebrate terrestrial animals only. Recently the study of the subterranean aquatic fauna has received new impetus, but we are still wanting limnologists willing to concentrate on the biology of the surface waters of the more arid parts of the Caribbean.

LIST OF LOCALITIES

Attention may be drawn to the true significance of the following terms, which are often used in various, quite different meanings.

West Indies ..... Antilles, Bahamas, Florida Keys, Bermuda, Cayman Islands, Swan Island, Old Providence, San Andrés

Antilles ..... from Cuba and Cayman Islands 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 Barbados and Grenada (Bovenwindse Eilanden, Islas de Barlovento, Isles sur le Vent, Insel über dem Winde)

(Caribbees ..... from Sombrero to Grenada)

Leeward Islands ..... (British designation) from Virgin Islands to Dominica

Windward Islands ..... (British designation) from Martinique to Grenada

Leeward Group ..... from Los Testigos to Aruba and Los Monges (Benedenwindse Eilanden, Islas de Sotavento, Isles sous le Vent, Inseln unter dem Winde)

It may be useful to explain a few terms which often have a special local signification in *Papiamento* (and *Dutch*), spoken on Curaçao, Aruba and Bonaire:

baki (*bak*) = cistern (Sp.: peila, cisterna).
boca (*baai*) = bay (Sp.: boca, baía; Fr.: anse, baie).
boca (*bron*) = spring (Sp.: boca, manantial; Fr. source).
hòfi, hoffie (*hofje*) = orchard & vegetable garden.
koenoekoe, cunucu (*plantage*) = property prepared for cultivation in rural district (cf. Sp.: conuco).
klip = cliff, escarpment, rocky area.
lagoen, lagun = lagoon, salt-water lake (Sp.: laguna; Fr.: lagune, lagon).
lagoen, lagun = lake, large pond (Sp.: laguna; Fr.: étang).
plaja, playa = beach, shore (Sp.: playe; Fr.: plage).
poos, pos (*put*) = well (Sp.: pozo, aljibe; Fr.: puits).
rooi = gully, gut (Sp.: arroyo; Fr.: ravine).
salinja, saliña = saltpond, land-locked bay, saline, mudflat (Sp.: saliña; Fr.: saline).
seroe, ceru (*berg*) = mountain, hill (Sp.: cerro, cerrito).
tanki, tanque = pool, pond, slob (Sp.: poza, estanque; Fr.: pond, mare).
trankera, tranqué (*trankeer*) = hedge, palissade, fence (Sp.: tranquera).

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LAND HABITATS

SYNOPSIS

Climatic factors are emphasized. Every month with an average rainfall of below 100 mm has been taken as part of a "dry season". However, since only a few rainfall observations were available, and "exposure" to wind and sunshine uses to be very variable in places, this scale is necessarily rather arbitrary. – Cf. *Studies 4*, p. 6.

Station numbers of
Leeward Group: 131, 132, ... 302, 303, ... 950, 951, 0121, 0122, ... 0128, 0140.
Windward Group: *296, 297, ... 410, 411, ... 043, 044, ... 0101, 0103 ... 0118, 0119.*
Trinidad, S. American mainland and islands less than 5 km off: (121), (122), ... (279), (280), ... (301), (365), ... (791), (826), (827), ... (919).
Florida Keys to Puerto Rico: *(491)*, *(492)*, ... *(688)*, *(689)* ... *(998)*, *(999)*, *(001)*, *(002)*, ... *(023)*, *(031)*, ... *(040)*, *(041)*.

STRONGLY AFFECTED BY SALT WATER)

(USUALLY MOISTENED BY SALT WATER)

sea shore

decay of mangroves	177, 180, 308, 326, 361, 363, *476*, 802, 815, 874, 875, 877, 879, 880, *(965A)*, *(991)* *(022)*
decay of sea grass or algae..	302, 311, 321, 364, (367), *410, 413, 418, 433, 453A, 462, 480, 481*, (495), 556, (579), *583*, *(690)*, *(697)*, *711, 713, 720, 730, 761, 764*, 800, 801, 819, *830, 832, 834, 835, 842, 863, 864*, 872, 873, 904, 907, 946, *(960)*, *(965)*, *(970)*, *(023)* *(038)*, *(040)*, *062, 069, 075, 0121,*
other flotsam	*322A, 450, 477, (497)*, 558, (577), (580), *611*, (623A), *(689)*, (789), (790), 797, 814, *830, 831, 833, 836, 856, 079*

shore of saltpond

much decay	307, 315, *464*
little decay	303, *463, 487, (699), 710*

(NOT USUALLY MOISTENED BY SALT WATER)

MARKED DRY SEASON – IRREGULAR RAINFALL, 800–1600 mm

rocky	*434, 456, 457, 765, 766, (952)*, (956), (973)
sandy	*432, 471, (496)*, (623), *(688)*, *714, 731, 744, (957)*, *(961)*, *(972)*, *(974)*, *(977)*, *(985)*, *(988)*, *(990)*, *(993)*, *(001)*, *(002)*, *091*
muddy	*459, 849*

OFTEN A PROLONGED DRY SEASON – RATHER ERRATIC RAINFALL, 600–1200 mm

sandy *411, 412, 453, 454, 596,* (826), *057*

PROLONGED DRY SEASON – ERRATIC RAINFALL, 200–900 mm

rocky 156, 200, 247A, 253A, 322, 876
sandy 178, 179, 247, 278, (285), (287), (291), 310, 318, 806, 878
muddy 304, 320, 360

NOT STRONGLY AFFECTED BY SALT WATER

(USUALLY MOISTENED BY FRESH OR BRACKISH WATER)

(seriously affected by human activities)
calcareous 193, 193C, (*954*), (*019*)
non-calcareous ..... (566), (567), (*773*), (*017*), (*018*)
(not seriously affected by human activities)
calcareous 192, *597, 609, 845*
non-calcareous 150, 161, 236, 274, 345, *416,* (552), (553), (*691*), (827)

(NOT USUALLY MOISTENED BY FRESH OR BRACKISH WATER)

NO DRY SEASON – REGULAR RAINFALL, over 1800 mm

(*in deep cave*)
calcareous ..... (573)
(*not in deep cave*)
well protected from wind
(seriously affected by human activities)
non-calcareous *439-A,* (550), (554), (564), *589, 590,* (918), (919), (034A), (013)
(not seriously affected by human activities)
calcareous ..... (571), (572)
non-calcareous *439B-C, 440,* (551), (555), (563), (565), (828), (916), (917)
largely protected from wind
(seriously affected by human activities)
non-calcareous ..... (*041*)
(not seriously affected by human activities)
non-calcareous ..... (369), (370), (*033*), (*034*), (*0112*)

WEAK DRY SEASON – RATHER REGULAR RAINFALL, 1300–2100 mm

(*in deep cave*)
- calcareous ..... (570)
- non-calcareous *445*

(*not in deep cave*)
- *well protected from wind*
  - (seriously affected by human activities)
    - non-calcareous *427A*, (*695*), *837*, *843*, (*035*), (*036*)
  - (not seriously affected by human activities)
    - calcareous *466*, (568), (569), (*020*)
    - non-calcareous 143, 144, *420*, *427*, *428*, *437*, *438*
- *largely protected from wind*
  - (seriously affected by human activities)
    - calcareous ..... (*012*), (*014*), (*015*), (*016*), (*031*), (*037*)
    - non-calcareous 149, *429*, *430*, (574), *844*
- *partially exposed to wind*
  - (seriously affected by human activities)
    - non-calcareous *431*, *588*, *850*, *853*, *855*, (*039*), *0113*
  - (not seriously affected by human activities)
    - calcareous ..... (368), *735*
    - non-calcareous *421*, *478*, *479*, *0115*
- *fully exposed to wind*
  - (not seriously affected by human activities)
    - non-calcareous *444*

MARKED DRY SEASON – IRREGULAR RAINFALL, 800–1600 mm

(*in deep cave*)
- calcareous 141, 142, *474*, (*494*), *721*, *723*, *745*, *766A*, *775*
- non-calcareous *436*, *446*

(*not in deep cave*)
- *well protected from wind*
  - (seriously affected by human activities)
    - calcareous *746*, *748*, *776*, *777*, *778*, *779*, *780*, *865*, (*031*)
    - non-calcareous 147, (295A), *296*, *298A-D*, (366), *414*, *617*, *619*, (791), *065*, *067*
  - (not seriously affected by human activities)
    - calcareous *299A-B*, *473*, *474A*, (*493*), *724*, *733*, *734*, *747*, *774*, (*999*), *0107*
    - non-calcareous *298*, *423*, *616*, *622*, *066*, *0114*
- *largely protected from wind*
  - (seriously affected by human activities)
    - calcareous *422*, *587*, (576), *605*, *613*, *615*, (*692*), *725*, *726*, (*958*), (*959*), (*962*), (*967*), (*969*), (*971*), (*976*), (*995*), (*997*), (*003*)
    - non-calcareous *300*, (365), *419*, *449*, *468*, *469*, (575), *607*, *608*, *763*, *850*, *857*, *044*, *064*, *0114A*

(not seriously affected by human activities)
calcareous *299, 424, 425, 458, 461, 465, 612, 614,* (*702*), (*703*), (*704*), (*709*), (*963*), (*964*), (*966*), (*975*), (*986*), (*989*), (*994*), (*996*), (*998*), (*010*), *077*
non-calcareous *163,* (295), *415, 417A, 426, 441, 467,* (578), *618, 621,* (*700*), *857A, 859,* (*032*), *070, 076*

partially exposed to wind
(seriously affected by human activities)
calcareous *460,* (*491*), *581, 582, 594, 762, 772,* (*953*), (*954*), (*955*), (*968*), (*004*), (*021*), *0106, 0108*
non-calcareous *148, 296, 297, 442, 620, 715, 757, 758, 857, 868, 871, 0105, 0111, 0117, 0118*
(not seriously affected by human activities)
calcareous *458A, 470, 472,* (*492*), (*498*), *593,* (*701*), (*987*), (*992*), *0119*
non-calcareous *435, 443, 447, 451, 452, 584, 585,* (*698*), *789, 857A,* (*043*), (*045*), *071, 073, 0110*

fully exposed to wind
(seriously affected by human activities)
calcareous ..... (*499*)
non-calcareous *448, 074, 0109*
(not seriously affected by human activities)
calcareous 141A, (*696*)
non-calcareous 145, 146, *417, 448A, 068, 072, 0116*

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

(*in deep cave*)
calcareous *592, 084*

(*not in deep cave*)
well protected from wind
(not seriously affected by human activities)
calcareous ..... (123), (124), 140, *591, 599, 600, 732,* 798, *083, 085*
non-calcareous 165, 235

largely protected from wind
(seriously affected by human activities)
non-calcareous 157, 162, *586, 595, 061, 063, 089*
(not seriously affected by human activities)
calcareous ..... (125-A), *445, 482, 483, 485, 488, 598, 610, 048, 050, 054, 078, 080, 081, 082, 086, 087*
non-calcareous 243A, *595A, 088*

partially exposed to wind
(seriously affected by human activities)
calcareous *047, 058*
non-calcareous *594, 057A, 059, 060, 092*
(not seriously affected by human activities)
calcareous *455, 475, 484, 593, 597, 601, 602, 603, 046, 049, 051, 052, 053, 0103*

non-calcareous 158, 160, 234, 349A, *415, 478, 479, 604, 757*

fully exposed to wind

(seriously affected by human activities)

calcareous *736*

non-calcareous *0101*

(not seriously affected by human activities)

calcareous *486, 489, 606, 829*

non-calcareous ..... (126), 159, 164, 270, (284), 349, (580), *090*

PROLONGED DRY SEASON – ERRATIC RAINFALL, 200–900 mm

(*in deep cave*)

calcareous 183, 188, 189, 209, 218, 219-A, 250, 251, 314, 340, 342, 347, 348, 348B, 817, 0132

(*not in deep cave*)

well protected from wind

(seriously affected by human activities)

calcareous 193A-B, 216, 359

non-calcareous 155, 245, 323, 331, 561

(not seriously affected by human activities)

calcareous 139, 208, 263

non-calcareous 194A, 198, 233, 346, 350, 351, 937-A

largely protected from wind

(seriously affected by human activities)

calcareous 257, 274, 327A, 333-A, 557, 804, 818, 947, 949, 0123, 0126, 0128

non-calcareous 323B, 324, 332, 334, 335, 336, 337, 356, 357A, 358, 821, 951

(not seriously affected by human activities)

calcareous ..... (122), 173, 190, 207, 211, 213, 220, 231, 238, 240, 244, 260A, (279), 327, 329A, 330, 352, 354, 355, 560, 562, 816, 832, 909, 941, 949, 0124, 0135

non-calcareous 136, 167, 168, 197, 204, 205, 246, (281), (301), 896, 938, 939

partially exposed to wind

(seriously affected by human activities)

calcareous 186, 194, 259, 264, 358, 799, 948, 950, 0125, 0127

non-calcareous 172, 230, 325, 337A, 338, 339, 357

(not seriously affected by human activities)

calcareous 138, 173A, 175, 184, 185, 187, 188B, 190A-B, 191, 199, 201, 202A, 206, 210, 212, 215, 217, 221, 223, 224, 227, 228, 229, 232, 240A, 241, 242-B, 243, 247, 248A, 249, 255, 256, 260, 265, 272, 275, 276, (282), (284), (292), (293), 305, 306, 316, 317, 319, 328, 329, 341, 343, 344, 803, 807, 808, 810, 811, 812, 813, 820, 897, 908, 912, 913, 940, 0122, 0131, 0133, 0134, 0136, 0137

DESCRIPTION
(Land Habitats)

A capital letter after the station number indicates the presence of a different habitat or, more rarely, a comparable habitat in another locality nearby. A small letter after the station number indicates that the same habitat has been studied before.

Reference to descriptions and illustrations in *Studies 1, 2, 4, 51,* and *61* in brackets. Compare also: *Encyclopedie Ned. Ant.* 1969, STOFFERS 1956, WAGENAAR HUMMELINCK 1933 and 1979, WAGENAAR HUMMELINCK & ROOS 1969, WESTERMANN & KIEL 1961 and WESTERMANN & ZONNEVELD 1956.

Station number. Locality and date. [Reference to pages and plates]
Altitude in meters; soil; vegetation; special habitat

Virginia Key

688 MARINE LABORATORY, 7.IX.1963.
1; sand; *Casuarina,* mixed with *Avicennia* and palm trees; plant decay, behind bark of *Cas.*

689 MARINE LABORATORY, beach, 4.IX.1963.
0–1; sand; higher parts with some beach vegetation; decay of sea grass; *Casuarina* and *Sesuvium,* dead wood.

Key Biscayne

690 NORTH POINT, beach, 7.IX.1963. [*51*: Ia]
0–½; sand; decaying *Thalassia* and other plant debris.

691 CRANDON PARK, swamp, 2.IX.1963.
0–1; muddy sand; swampish growth of coconut palms and various other trees; decay of *Cocos* and *Laguncularia.*

692 CRANDON PARK, 2.IX.1963.
1; sand; coconut palms, some *Coccoloba uvifera* and *Opuntia;* plant decay, and on stems of *Cocos.*

Cat Key

499 LANDING, 21.VIII.1949. [*4*:28]

South Bimini

497 NORTHERN SHORE, near Massy Creek, 20.VIII.1949. [*4* : 28]

498 FOUNTAIN OF YOUTH, 20.VIII.1949. [*4* : 28]

North Bimini

495 ALICE TOWN, 18.VIII.1949. [*4* : 28]

496 ALICE TOWN, beach, 18.VIII.1949. [*4* : 28]

New Providence

491 NASSAU, Gregory's Arch, 16.VIII.1949. [*4* : 28]

492 PINE BARRENS, Carmichael Road, 22.VIII.1949. [*4* : 28]

493 BLUE HILLS at Hunt's Cave, 22.VIII.1949. [*4* : 28]

494 HUNT'S CAVE, 22.VIII.1949. [*4* : 28]

Grand Cayman (Fig. 4; Pl. I–II)

952 BARKERS PENINSULA, 500 m S of Palmetto Point, 17.V.1973. [*61* : Ia]
½–1½; beachrock, possibly swampy after rains, low vegetation of shrubs with *Salicornia*; some plant decay.

953 LIMESTONE HILL 500 M W OF BOTABANO beach, 18.V.1973.
10; marly limestone with some shrubs and small trees; some rock debris with plant decay.

954 WATER GROUND, 100 m S of road, 18.V.1973.
2–3; poor pasture with some shrubs on marly limestone; some debris with leaf decay of mostly *Coccoloba uvifera.*

955 LIGHT TOWER OF WEST BAY, 100 m SE, 19.V.1973. (Pl. Ia)
10–12; weathered limestone with few shrubs; some plant decay with cow dung.

956 NORTH WEST POINT, 800 m E, 19.V.1973.
5; karstificated limestone terrace with beach vegetation, bushes of *Coccoloba uvifera*; leaf decay of *Coccoloba.*

957 TIMMS POINT at West Bay, 1 km S, 20–100 m from shore, 19.V.1973. [*61* : IIa]
1–3; sandy shore with beach vegetation with a.o. *Coccoloba* and *Agave*; sandy plant debris.

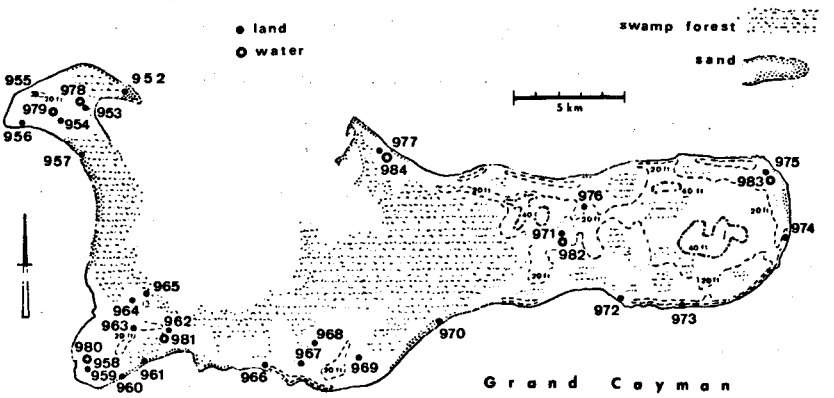


Fig. 4. Sketch-map of GRAND CAYMAN, showing land and fresh-water localities.

958 WALKERS ROAD, 800 m ESE of Jackson Point, 20.V.1973.
2–3 ?; semi-cultivated limestone flat with in places dense shrubs; rock debris with some plant decay.

959 WALKERS ROAD, 900 m SE of Jackson Point, 20.V.1973. (cf. Pl. IIa)
3–4 ?; limestone flat with locally dense shrubs; debris with some decay.

960 SOUTH SOUND, 20.V.1973.
1; sandy beach with decaying sea grass, mainly *Thalassia.*

961 ROAD N OF SOUTH SOUND, 2 km W of Prospect Pt, 20.V.1973.
1–2; sandy wall 50 m from sea, disturbed area with *Casuarina,* beach vegetation with much *Coccoloba uvifera,* small palm trees and *Agave;* scanty leaf decay.

962 SOUTH OF AIR STRIP, 1 km N of Red Bay, 21.V.1973.
1–2?; low-lying limestone with holes containing water after rains; cleared somewhat swampy brush; some detritus with a little plant decay.

963 WEST END OF AIR STRIP, S border, 21.V.1973.
2–3?; dense mesic shrubbery on low limestone flat with holes; leaf decay with grasses.

964 SOUTHWEST OF TURTLE CRAWLS, 400 m, 25.V.1973.
10 ?; weathered limestone flat with karst holes; semi-cultivated with some grasses, shrubs and small palm trees; some debris and decay.

965 TURTLE CRAWLS, 25.V.1973.
Thick layer of *Thalassia* cast ashore.

965A — 25.V.1973; *Avicennia* swamp; some muddy decay.

966 SPOTS, roadside, 90 m from sea, 21.V.1973.
3–5?; karstificated limestone terrace with dense shrubs; some decay.

967 SAVANNA VILLAGE, 500 m W at road, 23.V.1973.
2–3?; limestone flat, swampy after rains; cleared area with dense shrubs; some debris and decay.

968 LOWER VALLEY, 200 m W, 23.V.1973.
2–3?; roadside in agricultural area on limestone flat; some debris.

969 PEDRO, W. of Bodden Town, 23.V.1973.
4–5?; karstificated limestone plateau, dense shrubs with places cleared for agricultural purposes; some decay and in holes.

970 BODDEN TOWN beach, 23.V.1973.
Sea grass with some *Sargassum* cast ashore on sand beach.

971 BREAKERS, 3.5 km NE, 3 km S of Old Man Village, 27.V.1973.
2–3?; weathered limestone flat, semi-cultivated part among rather dense shrubs; below rock debris and among decay.

972 COTTAGE POINT, W. of Half Moon Bay, 25.V.1975.
2–3; sandy wall on limestone near shore; scanty grasses; very little decay.

973 HALF MOON BAY, 2 km E, 25.V.1973. [*61* : Ib]
2–3?; karstificated limestone terrace 25–60 m from shore; scattered shrubs with *Opuntia* and *Agave;* under pieces of rock and among decay.

974 GUN BAY VILLAGE, 1 km N, 25.V.1973. [*61* : IIb]
2–5: low dunes with scattered shrubs, *Coccoloba uvifera* and *Agave*; sandy debris.

975 BLUFF NEAR NORTH EAST POINT, 25.V.1973.
6; honeycombed limestone plateau; scattered herbs and shrubs; some decay of *Agave* and shrubs.

976 OLD MAN VILLAGE, 1½ km S along road, 27.V.1973.
5–7?; eroded landscape; among some shrubs on karst surface.

977 BOWSE LAND, 2 km SE of Rum Point, 27.V.1973.
1–1½; sandy area with beach vegetation, scattered shrubs and herbs incl. *Coccoloba* and *Sanseviera*; some sandy plant decay.

Little Cayman (Fig. 5; Pl. II)

985 WEST END POINT near Light Tower, 5.VI.1973.
4–6 ?; wall of coral debris with sand; beach vegetation incl. some small palms; plant decay.

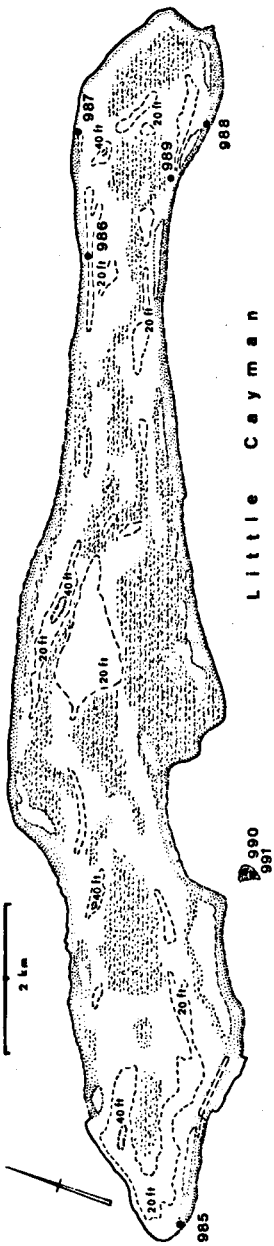


Fig. 5. Sketch-map of LITTLE CAYMAN, showing land localities.

986 BLUFF AT MARY'S BAY, 5.VI.1973
7 ; karstificated limestone plateau with shrubs, 30 m from edge of terrace; little debris.

987 BLUFF AT CALLABASH SPOT, NE point, 5.VI.1973.
7 ; honeycombed limestone with shrubs; scanty debris.

988 ROSETTA FLATS, E, SE point, 4.VI.1973.
2–4?; coral rubble with sand; scanty shrubs; some decay of a.o. *Coccoloba.*

989 BLUFF NEAR CHARLES BIGHT, 1 km W of Rosetta Flats, 4.VI.1973.
7 ; honeycombed limestone; rather dense shrubs with *Cephalocereus* and *Agave*; below rock debris and *Agave* decay.

990 OWEN ISLAND, 7.VI.1973. [*51* : Ib] (Pl. IIb)
½–1½; sandy key; abandoned cocos plantation, greatly covered by *Ambrosia hispida* and other herbs, few trees (*Coenobita* hermit crabs); some debris.

991 OWEN ISLAND, 7.VI.1973.
0–½; *Laguncularia* swamp; some leaf decay.

Cayman Brac (Fig. 6; Pl. III)

992 POLLARD BAY, SE point, 100 m from shore, 31.V.1973. [cf. *61* : IVa] (Pl. IIIb)
6; limestone with scattered shrubs near base of bluff, *Cocothrinax, Cephalocereus* and *Agave;* some debris with a little plant decay.

993 NEAR DEEP WELL, E of Jennifer Bay, 50 m from shore, 31.V.1973.
1–3; coarse coral debris and sand, some *Cocos* (numerous living *Cerion*, few *Tectarius*); cocos leaves and rubble.

994 BLUFF NEAR JENNIFER BAY, 31.V.1973. (cf. Pl. IIIa)
4–15; along the edge of the limestone bluff, with high shrubs, *Agave* and *Cephalocereus;* decay of *Agave* and rock debris.

995 KNOB HILL S, West End, 2.VI.1973. [*61* : VIa]
2–3; semi-cultivated area, abandoned and burnt, with cotton shrubs, possibly somewhat swampy after rains (numerous *Cerion*); plant decay, grasses and rock debris.

995A — 3. VI. 1973; 1–2 m; on and between shrubs and grasses.

995B — 2. VI. 1973; 2–3 m; along road.

996 KNOB HILL N, some tens of meters from 995, 3.VI.1973.
2–4; karst suface with shrubs, small trees, and *Agave* (several *Cerion*); some debris and leaf decay.

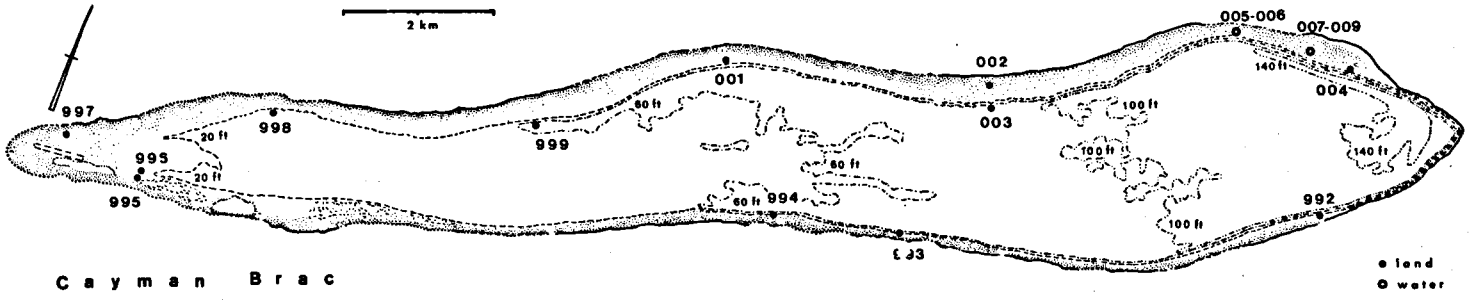


Fig. 6. Sketch-map of CAYMAN BRAC, showing land and fresh-water localities.

997 NORTH OF AIR STRIP, West End, 80–150 m from north coast, 30.V.1973.
2–3; sandy area with beach ridge, shrubs with dead *Cocos* trees, some *Coccoloba* and *Cocothrinax* (many *Cerion*); some rubbish and plant decay.

998 BLUFF AT COTTON TREE BAY, 2.VI.1973.
7; honeycombed limestone; dense shrubs with vines, *Cephalocereus* and *Agave;* in holes and between dead leaves.

999 BLUFF AT STAKE BAY opposite Government Building, 2.VI.1973. [*61* : VIb]
20; honeycombed limestone; rather dense shrubs with vines, some bromeliads, cactuses and *Agave*; rock debris and decay.

001 NEAR STAKE BAY POINT, 220 m SE, 1.VI.1973.
2–3?; karstificated limestone flat; rather dense shrubs and small trees, semicultivated; among some decay.

002 NORTH OF TIBBETT'S TURN, near shore, 1.VI.1973.
2–2?; sandy rubble; grassy area with shrubs and *Agave* (many *Cerion*); plant decay.

003 TIBBETT'S TURN, at bluff, 29.V.1973.
8; semi-cultivated limestone area, burnt down vegetation; decay of fruit trees.

004 SPOT BAY near The Bluff, 29.V.1973.
5–10?; semi-cultivated area with pieces of limestone and scattered shrubs; debris.

Jamaica

010 PORT HENDERSON HILL, S slope, 8.V.1973.
30; limestone with shrubs, *Agave* and *Cephalocereus;* pieces of rock and dead leaves of *Agave*.

012 ARAWAK MUSEUM, Central Village E of Spanish Town, 11.V.1973.
about 50?; weathered marly limestone; shrubs; some plant debris.

013 LANGLEY ON THE WAGWATER, N of Kingston, 13.V.1973
abt. 600; shales and cherts; ferns, *Selaginella,* mosses; plant decay.

014 DALLAS MOUNTAIN ROAD, E. of Mona, 14 km E of Kingston, 5.V.1973.
400 ; White Limestone; shrubs in dry period; plant debris among boulders.

015 DALLAS MOUNTAIN ROAD, E. of Mona, 12 km E of Kingston, 5.V.1973.
300 ; White Limestone; shrubs; scanty plant remains, among rock debris.

016 LONG MOUNTAIN near Mona Reservoir, 6.V.1973.
220; weathered White Limestone; shrubs and small trees; leaf decay with cow faeces, boulders.

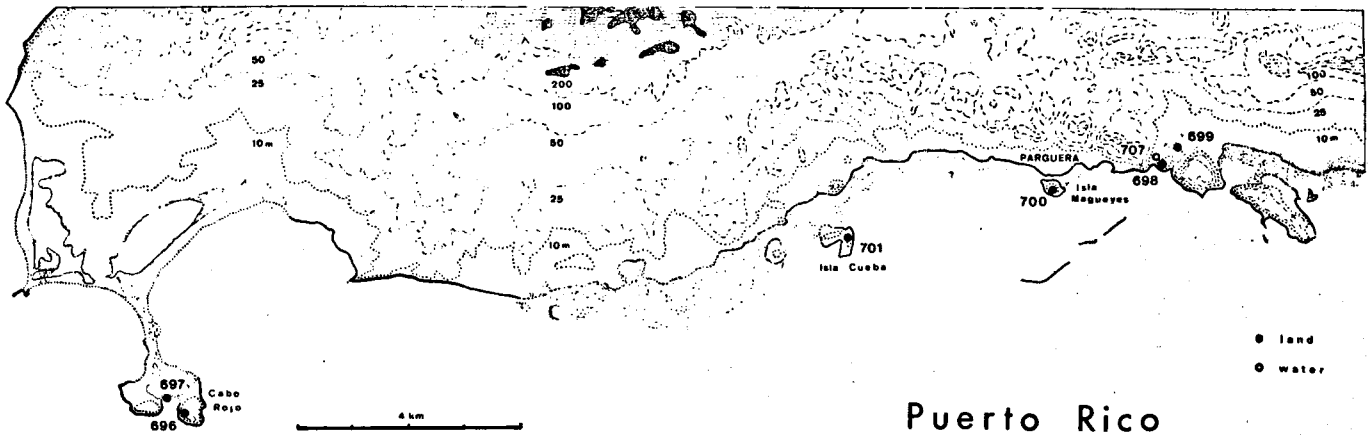


Fig. 7. Southwestern part of PUERTO RICO, with station numbers of land and fresh-water localities.

017 MONA, CAMPUS University of the West Indies, 6.V.1973.
200; cultivated area with fruit trees; plant debris, dead trees, garbage.

018 MONA, CAMPUS U.W.I., 12.V.1973.
200; garden adjacent to Chapel; wet leaf decay and timber, dirt from pool (028).

019 MONA, CAMPUS U.W.I., 12.V.1973.
200 ; leaf debris from dry cemented trough.

020 GRANTS PEN GULLY, W of Yallahs, 6.V.1973.
50; White Limestone; shrubs on steep slope; among boulders and scanty plant remains.

021 PALISADOES, Old Military Cemetery, 10.V.1973.
1–2; sandy area; leaf debris and old bricks.

022 PALISADOES, Kingston Harbour near Fort Rocky, 7.V.1973.
0–1; sandy decay of *Rhizophora*.

023 DRUNKEMANS CAY, 15.VI.1973.
0–1; sandy beach with sea grass cast ashore.

Hispaniola

031 NEAR RÍO HAINA, 20 km W of Santo Domingo, 3.V.1973.
20?; quarry in yellow limestone, at base of cliff; among rock debris and remnants of burnt shrubs, cow dung.

Puerto Rico (Fig. 7; Pl. IV–V)

695 LAS MESAS, E of Mayagüez, 20.IX.1963.
300 ; weathered soil; grove of mango and other trees; wet leaf decay of *Mangifera*, under pieces of wood.

696 CABO ROJO, E, 18.IX.1963. (Pl. IVa)
5–25; limestone; scanty vegetation of shrubs and cacti; under stones and in fissures, among grasses and Cyperaceae (*Uniola virgata*).

697 CABO ROJO, Playuela, 18.IX.1963.
0–1 ; sand beach; decaying *Syringodium* and other debris.

698 CERRO PAPAYO, W slope, E of La Parguera, 19.IX.1963.
20–100 ; rocky slope without limestone; growth of shrubs and small trees with cacti; rock debris with some plant decay.

699 SALIÑA PAPAYO, E of La Parguera, 19.IX.1963.
0–½; salty mudflat without vegetation; scanty debris.

700 ISLA MAGUEYES, La Parguera. 10.IX.1963.
15–23 ; rocky island (500 × 300 × 23 m); scattered shrubs and small trees with cacti (grazing horses, small zoo); under pieces of rock and among plant debris, in fissures (*Cerion*).

701 ISLA CUEBA, W of La Parguera, 11.IX.1963.
12 ; limestone terrace; considerable growth of Cyperaceae (*Uniola virgata*).

701A — NW part, 11.IX.1963; 2–5; limestone with lagoon deposits; shrubs with cacti; rock debris.

702 ENSENADA, northern hill near former lagoon, 15.IX.1963.
20–30; rocky hill slope without limestone; considerable growth of low shrubs; rock debris with some plant decay.

703 GUÁNICA, 8 km E along road, 15.IX.1963.
20; coral limestone with considerable growth of shrubs and small trees, with cacti; rock debris plant decay.

704 GUÁNICA, 10 km E along road, 15.IX.1963.
as before, near Tamarind tree.

032 ISLA MAGUEYES, La Parguera, 7.IX.1973. (Pl. Va)
20; among dry scrub and cactuses (cf. 700).

033 RESERVA FORESTAL MARIACAO, 6.IX.1973.
800 ; shrubs at roadside; some rock debris and mosses.

034 RESERVA FORESTAL MARIACAO, 6.IX.1973.
850; woody area; rock debris, ferns and mosses.

034A — 800; roadside near above-cited area; trees, shrubs, rubble.

035 RESERVA FORESTAL MARIACAO, 6.IX.1973.
750; shrubs and small trees at roadside; boulders and leaf decay.

036 MAYAGÜEZ, near Hilton Hotel, 8.IX.1973.
50–100?; rather dense shrubs and small trees near hotel premises; dead trees, litter and garbage.

037 NEAR LOIZA, E of San Juan, 1.V.1973. (Pl. Vb)
15?; abandoned quarry in isolated small hill of yellowish limestone (mogote); rock debris partly covered with herbs and shrubs.

038 PLAYA MEDIANÍA ALTA, E of San Juan, 1.V.1973.
0–½; sandy shore near stream of blackish, fetid water from swampy region; some *Syringodium*, *Thalassia* and algae cast ashore.

039 EAST OF RÍO GRANDE, E of San Juan, 1.V.1973.
10; artificial cliff of shale at roadside with dry scrub; dusty rock and plant debris.

040 PLAYA LUQUILLO, E of San Juan, 1.V.1973.
0–½; well-known sand beach with coconut palms; some *Syringodium* decay.

041 NEAR VIVERO CATALINA, SW of Luquillo, 1.V.1973.
60 ?; roadside cliff of shales, semi-cultivated, with rather dense plant cover; rubble and plant decay.

St. Thomas (Pl. VI)

300 DRAKES SEAT, near Charlotte Amalie, 16.III.1937. [*2* : 42]

621 BOLONGO BAY, 17.VI.1955. (Pl. VIa)
5–25; weathered non-calcareous rocks; xerophytic shrubs with a few trees, *Agave* and *Opuntia;* rock debris with scanty leaf decay.

621A — 30.IV.1973; 40; semi-cultivated area with *Agave* and *Clusia*; dry leaf decay with rock debris.

621B — 30.IV.1973; 60; rocky slope with spiny shrubs, *Agave* and *Opuntia*; some decay.

622 BROOKMAN RIVER BRIDGE, 17.VI.1955.
50 ?; weathered rock with plant decay and fresh litter of *Annona.*

623 MAGENS BAY, 20.VI.1955.
1–3 ; sand and weathered rock; growth of *Laguncularia,* dense shrubs of chiefly *Melicocca*; rubble with some plant decay.

623A — 30.IV.1973; 1; sandy beach with a few shrubs; some debris.

043 SKYLINE DRIVE near Wintberg, 30.IV.1973.
250; weathered non-calcareous rocks with shrubs; dry plant decay.

044 DRAKES SEAT, not far from 300, 30.IV.1973.
200; non-calcareous rock with shrubs and small trees; dry leaf decay.

045 FRENCHMAN BAY ROAD, NW of Bolongo Bay, 30.IV.1973.
60; non-calcareous weathered rock; leaf decay of spiny shrubs.

St. John

618 CHOCOLATE HOLE, 19.VI.1955.
30; diabase-like rocks and cherts; dry shrubs with some high trees; some leaf decay among sandy rock debris.

618A — 19.VI.1955; on and below bark of large *Tamarindus.*

619 CATHERINEBERG, 19.VI.1955.
200; clayish soil near drying pond, semi-cultivated; grasses and litter of *Mangifera.*

620 CATHERINEBERG HILLS, 19.VI.1955.
300; diabase and schist-like rocks; few shrubs on steep slope; rock debris with scanty plant decay.

St. Croix (Santa Cruz) (Pl. VI)

611 FAIR PLAIN, shore, 16.VI.1955.
½–1; sand; scanty growth of trees; decay of *Hippomane*.

612 UPPER BETHLEHEM, E hill slope, 14.VI.1955.
50?; marly limestone; low xerophytic shrubs and some small trees, semi-cultivated; rock debris with some plant decay.

613 UPPER BETHLEHEM, Agric. Exp. Station, 13.VI.1955.
50?; cultivated limestone area; rubble and plant decay.

614 CLIFTON HILL, ruins, 14.VI.1955.
60?; ruins of rum factory with many bats; wood decay with bat faeces (of *Artibeus jamaicensis*), plant waste.

615 FREDENSBORG HILL, S slope, 11.VI.1955.
60?; marly limestone; semi-cultivated area with scanty plant growth; some decay.

616 CANAÄN STREAM VALLEY, 10.VI.1955. (Pl. VI b)
50?; volcanic series with very hard limestone; well wooded; rock debris, wood and leaf decay.

617 CANAÄN, garden and gut, 22.VI.1955.
50?; volcanic series; party cultivated, well-wooded area; under rocks and among plant decay.

Dog Island (Pl. VII)

487 SALTPOND, near landing, 17.VI.1949. [*4* : 27] (cf. Pl. VIIa)

488 NORTH COAST, near well, 17.VI.1949. [*4* : 27]

489 NORTH COAST, E of well, 17.VI.1949. [*4* : 28]

Anguilla (Fig. 8; Pl. VII–VIII)

481 FOREST POINT, beach, 20.VI.1949. [*4* : 27]

482 FOREST POINT, near Saltwell, 18.VI.1949. [*4* : 27] (Pl. VIIb)

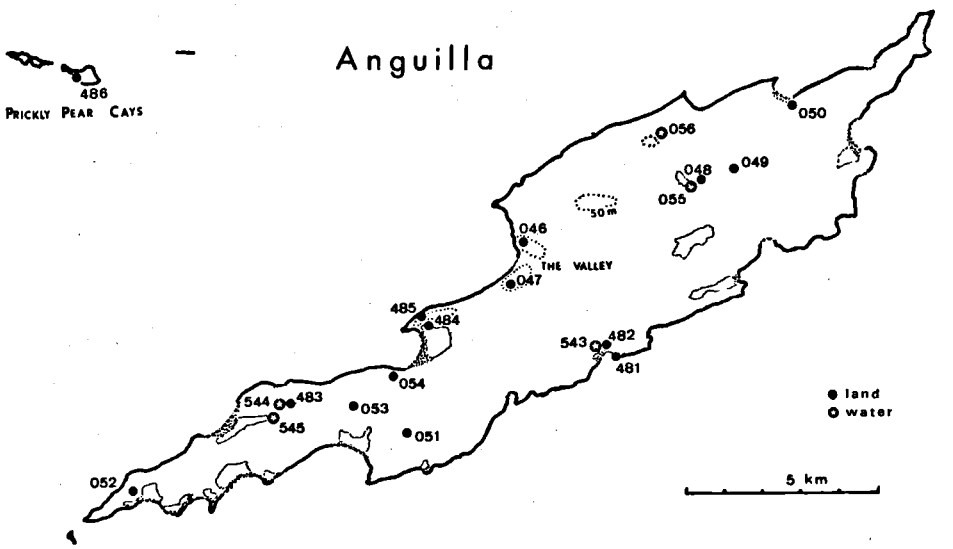


Fig. 8. ANGUILLA, with station numbers of land and fresh-water localities.

483 BEDNEY'S SPRING, near Long Bay, 18.VI.1949. [*4* : 27]

484 SANDY GROUND, S slope, 16.VI.1949. [*4* : 27; cf. *51* : VIIb]

485 SANDY GROUND, N. slope near shore, 16.VI.1949. [*4* : 27]

486 UPPER PRICKLY PEAR ISLAND, 17.VI.1949. [*4* : 27]

046 CROCUS HILL, cliff N of bay, 30.VI.1973. [*51* : VIIa]
10 – 30 ; weathered limestone with pieces of rock; semi-cultivated; sparse shrubs; rock debris with little plant decay.

047 CROCUS HILL, S of bay, 1.VII.1973.
20 – 30; semi-cultivated area on the bluff; among pieces of rock and bricks (poultry present).

048 BADCOX POND, W of Gauls Pond, 1.VII.1973. (cf. Pl. VIIIa)
2–3 ; low limestone plateau with lapies, some shrubs with *Agave*; under pieces of rock, in fissures, among leaf decay.

049 SAL HILL, 1.VII.1973.
60 ; karstificated limestone, scanty dry scrub; among rock debris and in fissures.

050 ISLAND BAY, NW shore, 1.VII.1973.
5–10 ; karst surface with a few shrubs; rubble and in fissures.

051 NEAR BLOWING POINT, 1 km N, 2.VII.1973.
2–3?; limestone flat with some weathered soil; dry shrubs; rock pieces and plant decay.

052 WEST END, 2.VII.1973.
2–3?; weathered limestone area with clayish soil, some *Opuntia dillenii* and *Coccoloba uvifera*; rock debris with plant decay.

053 LOW SOUTH HILL, SW of Sandy Ground, 2.VII.1973.
3–6?; limestone flat with some weathered soil; a few shrubs; rubble and plant decay.

054 SANDY GROUND, S bluff, 2.VII.1973.
20–30; limestone, semi-cultivated with scanty shrubs; rock debris with little plant decay.

St. Martin (Fig. 9–10; Pl. IX – XII)

299 OLD BATTERY HILL, SE of Philipsburg, 17.III.1937. [*2* : 42; cf. *51* : VIIIa]
299A — 17.III.1937. [*2* : 42]
299B — 29.V.1949. [*4* : 25]

456 MOLLY BEDAY, island off E shore, 3.VIII.1949. [*4* : 24]

457 PELICAN KEY, island off E shore, 3.VIII.1949. [*4* : 24]

458 POINT BLANCHE, W slope, 17.V.1949; 40 m. [*4* : 25] (cf. Pl. IX)
458a — 29.VII.1967; 60 m; considerable growth of shrubs and small trees; among pieces of rock and decay, on shrubs.
458b — 25.VI.1973; 70–80 m; as before.
458A — W top, 25.VII.1955; 90 m; rocky with limestone; some shrubs; rock debris and plant decay.
458Aa — 25.VI.1973; 100–110 m; flat area with sparse plant growth, shrubs of *Croton flavens*, *Opuntia* and *Cephalocereus*; decay of trees and Bromeliaceae.

459 POINT BLANCHE, Pond, 17.V.1949. [*4* : 25]

460 POINT BLANCHE, near shore, 17.V.1949. [*4* : 25]

461 OLD BATTERY, SE of Philipsburg, 18.V.1949. [*4* : 25]
461a — 2.VI.1955; 5 m; chiefly limestone, semi-cultivated field with shrubs and considerable growth of Mancheneel trees; below rocks, and among litter of *Hippomane*.
461b 1.X.1963; 5–15 m; as before; rock debris and some plant decay.

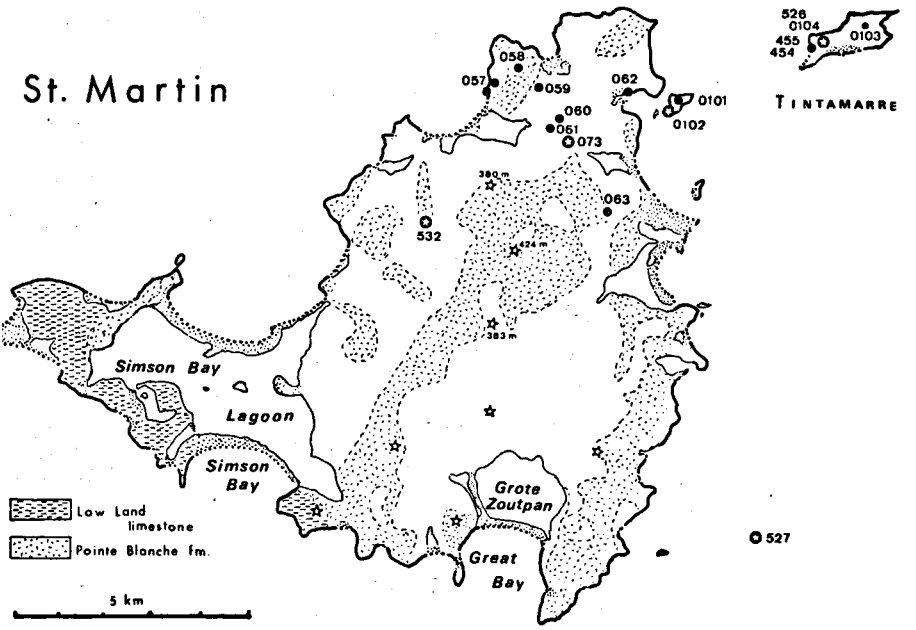


Fig. 9. Sketch-map of ST. MARTIN, with station numbers of land and fresh-water localities situated in its northern part.

462 GREAT BAY, W shore, 24.VI.1949. [*4* : 25; cf. *51* : VIIIa]

463 GREAT SALTPOND, E shore, 25.V.1949. [*4* : 25]
463A — 9.III.1949. [*4* : 25]

464 GREAT SALTPOND, W shore, 5.VIII.1949. [*4* : 25]

465 EXPERIMENT, E of Great Saltpond, 25.V.1949. [*4* : 25]

466 COLOMBIER VALLEY, 20.V.1949. [*4* : 25]

467 ST. PETER, Cul-de-Sac, 24.V.1949. [*4* : 26] (cf. Pl. XIa)
467a — 29.VI.1955; 20 m; cultivated soil; shrubs and grasses; stone wall and plant debris.
467b — 2.X.1963; among stones and decay, old wood and animal remains on grassy field at dried slob.

468 ST. PETER, Cul-de-Sac, Agric. Exp. Sta., 24.V.1949. [*4* : 26]
468a — 29.VI.1955; 20; cultivated area with orchard; rock debris and decay of *Cocos*.
468A — 29.VI.1955; as above; leaf bases of young *Cocos*.

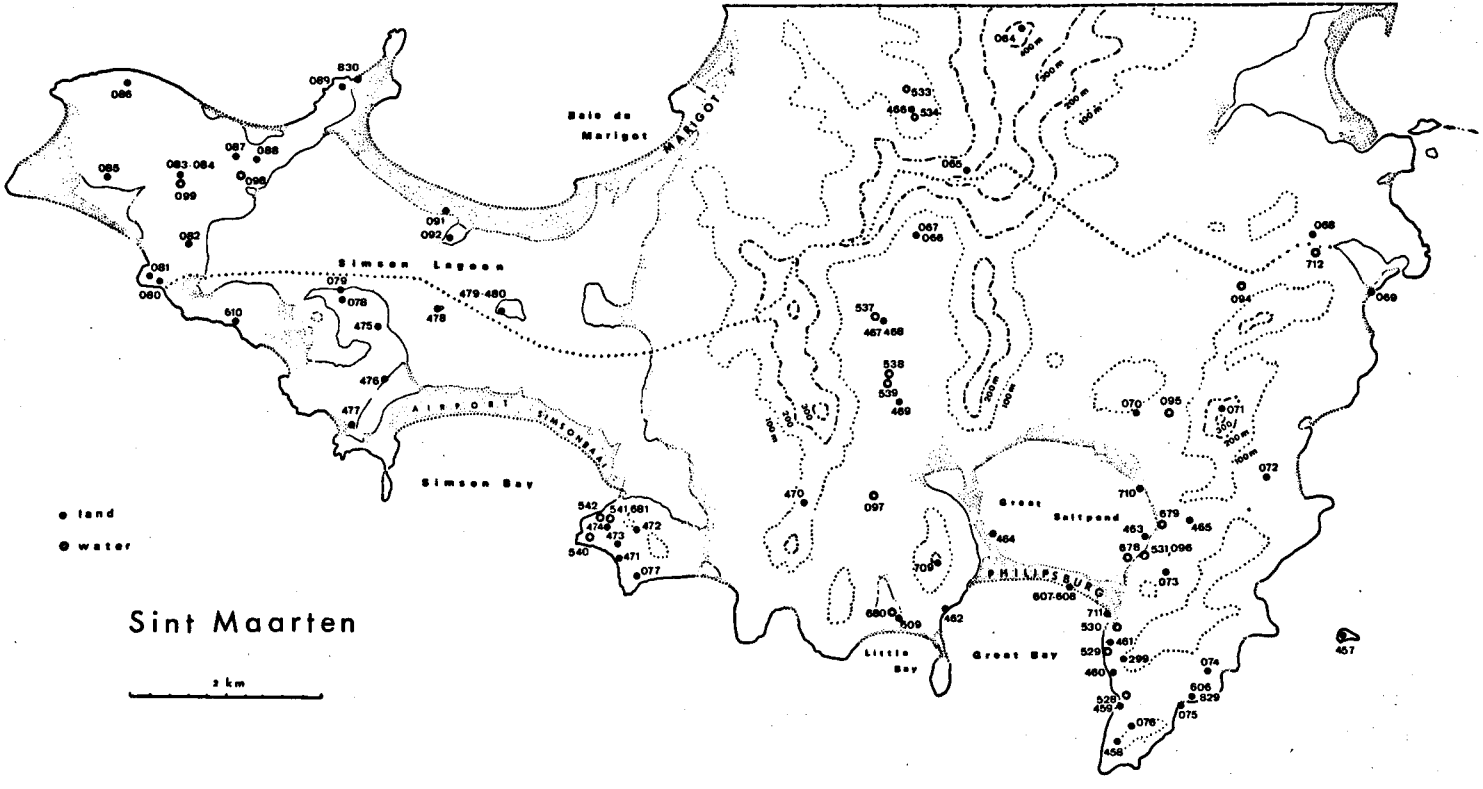


Fig. 10. Southern part of ST. MARTIN , with station numbers of land and fresh-water localities.

469 CUL-DE-SAC, at bridge, 24.V.1949. [*4* : 26]
469A — 24.V.1949. [*4* : 26]

470 COLE BAY HILL, 8.VIII.1949. [*4* : 26]

471 LAY BAY, 27.V.1949. [*4* : 26]

472 MESCHRINE HILL (Corner Hill), W top, 27.V.1949. [*4* : 26; cf. *51* : IX]

473 MESCHRINE HILL, W base, 27.V.1949. [*4* : 26]
473A — W slope, 2.VIII.1967.
473B — SW, 27.VI.1973; 10–20 m; karst surface with some shrubs. *Tillandsia;* rock and plant debris.

474 DEVILS HOLE, cave, 4.VIII.1949. [*4* : 26]
474a — 26.VII.1955; 1–2 m; limestone cave without vegetation (shady to dusky); weathered soil with bat faeces (*Tadarida brasiliensis)*, rock debris.
474b — 14.X.1963; as before (no bats present).
474c — 27.VI.1973; as before (*Tadarida*).
474A — sink-hole, 27.VII.1955; among debris.
474Aa — 14.X.1963; as before, with some plant decay and bat faeces.

475 LOW LANDS, Flamingo Pond, 8.VI.1949. [*4* : 26, IIIb]
475A — 8.VI.1949. [*4* : 26]

476 LOW LANDS, W shore of Flamingo Pond, 8.VI.1949. [*4* : 26]

477 LOW LANDS, SW shore of Flamingo Pond, 8.VI.1949. [*4* : 27]

478 LITTLE KEY, island in Simson Bay Lagoon, 2.VIII.1949. [*4* : 27; *51* : XIIb]

479 GREAT KEY, island in Simson Bay Lagoon, 2.VIII.1949. [*4* : 27]

480 GREAT KEY, 2.VIII.1949. [*4* : 27]

606 POINT BLANCHE BAY, near shore, 5.VI.1955.
5–10; beachrock; scanty vegetation, a few shrubs with *Melocactus* and *Opuntia;* under rock debris and among plant decay.
606a — 26.IX.1963; as before.

607 PHILIPSBURG, school, 24.VI.1955.
1–5; loft of St. Josephs school (dusky); bat faeces (*Molossus molossus*).

608 PHILIPSBURG, house, 24.VI.1955.
10?; bat faeces (*Molossus*), Antonio Velasquez coll.

609 LITTLE BAY POND, shore, 4.VI.1955.
0–2; limestone and sand along brackish water pond with Mancheneel trees; boulders and litter of *Hippomane.*

610 LOW LANDS, Mullet Pond Bay, 27.VI.1955.
15; limestone; xerophytic shrubs near lagoon; rock debris with some plant decay.

709 FORT WILLEM's Ruins, W of Philipsburg, 2.X.1963.
220; volcanic tuffs with limestone and cherts; scattered growth of shrubs and trees; rock debris, leaf decay of mainly *Pisonia*, on stems.

710 GREAT SALTPOND, NE shore, 28.IX.1963.
0–½; salty mudflat without vegetation, some rubbish and a few boulders.

711 GREAT BAY, NE shore, 16.X.1963.
0–½; sand and rock debris; wet decay of sea grass and algae, coral shingle.

829 POINT BLANCHE BAY, 29.VII.1967.
10; limestone terrace near E shore; scanty growth of grasses and low shrubs, abundant *Melocactus*; some leaf decay.

830 BAIE AUX CAILLES, Terres Basses, 28.VII.1967.
¼–½; sandy beach; wet decay of mainly *Syringodium*.

830a — 26.VI.1973; as before.

057 PENINSULA N OF GRAND'CASE, 22.VI.1973.
2–10; diorite and sand; scanty beach vegetation with *Acacia, Cephalocereus* and *Opuntia;* some decay with cow dung.

057A N of Grand'Case, SW slope of Belle Hill, 22.VI.1973.
20–50; diorite; few shrubs on steep slope (cattle); some debris and faeces.

058 FIRST STICK HILL, N of Grand'Case, 20.VII.1973.
170; volcanic tuffs with limestone; weathered rocky E slope, burnt vegetation, poor pasture; little decay among pebbles, in fissures.

059 COCKSIES, N of Grand'Case, 20.VII.1973.
110; quarzdiorite landscape (cattle, poultry); some decay.

060 PEA TREE HILL, E of Grand'Case, 22.VI.1973.
130; dioritic hill, possibly with some limestone on top; margin of clearing for pasture, high shrubs with cacti; rock debris and plant decay.

061 NEAR PEA TREE HILL, 22.VI.1973.
30; poor pasture with Tamarind tree; rubble and decay, on *Tamarindus*.

062 CUL-DE-SAC BAIE, 20.VII.1973.
0–½; sandy shore; decay of sea grass (*Uca* fiddler crabs).

063 LA CROISADE, Quartier d'Orleans, 22.VI.1973.
70; porfiritic outcrop; scattered shrubs, small trees and cacti; rock debris with a little decay.

064 PIC DU PARADIS, roadside, 25.VI.1973.
400; volcanic tuffs with cherts; high shrubs with *Clusia*; some decay among rock debris.

065 FLAGSTAFF, W slope, 22.VII.1973.
400; non-calcareous rock; shrubs and small trees with Bromeliaceae, some Bananas and Mangos; fissures with some plant decay and mosses.

066 MILDRUM, N Cul-de-Sac, 24.VI.1973.
65–70; non calcareous rock; considerable growth of shrubs and trees; decaying wood and dead leaves.

067 MILDRUM, about 20 m from 066, 24.VI.1973.
65–70; cleared and semi-cultivated area; pieces of rock with scanty leaf decay.

068 W OF OYSTERPOND, 20.VII.1973.
30–40; andesite rock, spiny shrubs; fissures with some plant decay.

069 OYSTERPOND, beach, 20.VII.1973.
0–½; sandy beach of E shore; *Syringodium* and *Sargassum* cast ashore.

070 BACKY HILL at Hotel Prince's Quarter, 19.VI.1973.
120–140; dioritic rock; shrubs, small trees and cacti; boulders, fissures, leaf decay.

071 NAKED BOY HILL, 20.VI.1973.
260; tuffoid rock and cherts; dry shrubs with a few Bromeliaceae; rock fissures with a little decay.

071A — 20.VI.1973; 150; non-calcareous N part of hill cleared; some plant decay with cow dung.

072 GUANA BAY RIDGE, 22.VII.1973. (Pl. Xb)
130–140; tuffs and cherts, possibly with some limestone; shrubs; some decay in fissures.

073 HOPE HILL, E of Philipsburg, 21.VI.1973.
100; non-calcareous tuffoid rock; scanty shrubs with Cactaceae; some plant decay.

074 N OF POINT BLANCHE BAY, seaward slope, 2.V.1973.
50; tuffoid rock; some low shrubs on exposed grassy slope (with a few cows); plant debris, pieces of calcareous bricks.

075 POINT BLANCHE BAY 2.V.1973.
0–½; sandy beach; decay of *Syringodium* and algae.

076 POINT BLANCHE, N slope, 25.VI.1973.
30; tuffoid rock and cherts; considerable growth with bromeliads in trees; leaf decay.

077 CORNER HILL (Meschrine Hill) near Cole Bay, 28.VI.1973.
10–20; limestone with karst; small trees and shrubs with bromeliads; under pieces of rock, in fissures, among plant decay.

078 N OF MULLET POND, Low Lands, 26.VI.1973.
10; karst surface with dense shrubs and small trees, bromeliads; rubble and plant decay.

079 SIMSON BAY LAGOON at Mullet Pond, 26.VI.1973.
0–¼; rocky shore with sand; some decay of sea grass.

080 NEAR CUPECOY BAY, roadside, 23.VI.1973.
10; limestone; degraded bush partly inundated after rains; limestone flakes, dead bromeliads.

081 CUPECOY BAY HILL, Low Lands, 23.VI.1973.
20; karstificated limestone; rather dense high shrubs; pieces of limestone, fissures with weathered soil and plant decay.

082 N OF CUPECOY BAY, 26.VI.1973.
40–50; limestone area with shrubs along road; rubble and some decay.

083 NEAR THE GROTTE DU PUITS DES TERRES BASSES, 16.VII.1973.
20; limestone escarpment; dense growth of high shrubs with *Clusia*; rock debris with decay.

084 GROTTE DU PUITS DES TERRES BASSES, 19.VII.1973.
20–25; limestone cave; weathered soil with bat faeces, without vegetation (dusky); below pieces of rock, faeces of *Artibeus jamaicensis*.

085 N OF GRAND ÉTANG, Terres Basses, 26.VI.1973.
10–25; limestone and shales; some dry shrubs along road; some debris.

086 S OF FALAISES DES OISEAUX, Terres Basses, 26.VI.1973.
40; karstificated limestone; dense dry shrubs with small trees, Bromeliaceae; rubble and plant decay.

087 MORNES DE LAKEM, Terres Basses, 23.VI.1973.
30; limestone; rather dense scrub; under rock debris, dead wood, decay.

088 MORNES ROUGES, some 150 m SE of 087, 23.VI.1973.
20–25; non-calcareous volcanic rock; dense shrubs and small trees with Bromeliaceae; leaf decay.

089 MORNE AUX CABRIS, 23.VI.1973.
15; diabase-like rock; sparse scrub with a few palms; among pieces of rock with some plant decay, dead *Roystonia*.

090 MORNE AUX CABRIS, N cliff, 26.VI.1973.
20–40; cherts; exposed slope with much *Croton flavens*, melocacti; very little plant decay.

091 SIMSON LAGOON, N of Colline Nettlé, 29.VI.1973.
1; semi-cultivated sand strip near lagoon, shrubs; some decay.

092 COLLINE NETTLÉ, Simson Lagoon, 29.VI.1973.
5–15; tuffoid rock and cherts; exposed hill with a few low trees used for grazing; rock debris, little decay, faeces.

0101 ILET PINEL, off St. Martin's NE shore, 15.VII.1973.
10; tuffoid rocks; exposed grassy vegetation used for grazing, a few Manchineel trees; tussocks of dry grass, among *Hippomane* leaves (*Coenobita*).

456 MOLLY BEDAY (island), 3.VIII.1949. [*4* : 24]

457 PELICAN KEY (island), 3.VIII.1949. [*4* : 24;]

Tintamarre (Flat Island) (Fig. 9; Pl. XIII)

454 WHITE BAY, 20.VI.1949. [*4* : 24] (cf. Pl. XIIIa)

455 BLUFF N OF WHITE BAY (Baie Blanche), 20.VI.1949. [*4* : 24] (Pl. XIIIa)
455a — 15.VII.1973; 15 m; karstificated limestone; scanty shrubs and small trees; *Croton flavens* and *Opuntia;* among debris and in fissures.

0103 COLLINE DU SOLDAT, NE of island, 15.VII.1973.
30; limestone terrace with debris; dry scrub, *Croton flavens* with cacti; some leaf decay between stones.

La Fourche (Five Island)

452 FOURCHE, central part, 2.VI.1949. [*4* : 24, IIIa]

453 FOURCHE BAY, 2.VI.1949. [*4* : 24]
453A — 2.VI.1949. [*4* : 24]

St. Barts (Saint-Barthélemy, St. Barths) (Fig. 11; Pl. XIV)

447 WATERSHED NW GRAND FOND, 3.VI.1949. [*4* : 23]
447a — 18.VII.1973; abt. 200; volcanic rock; as before.

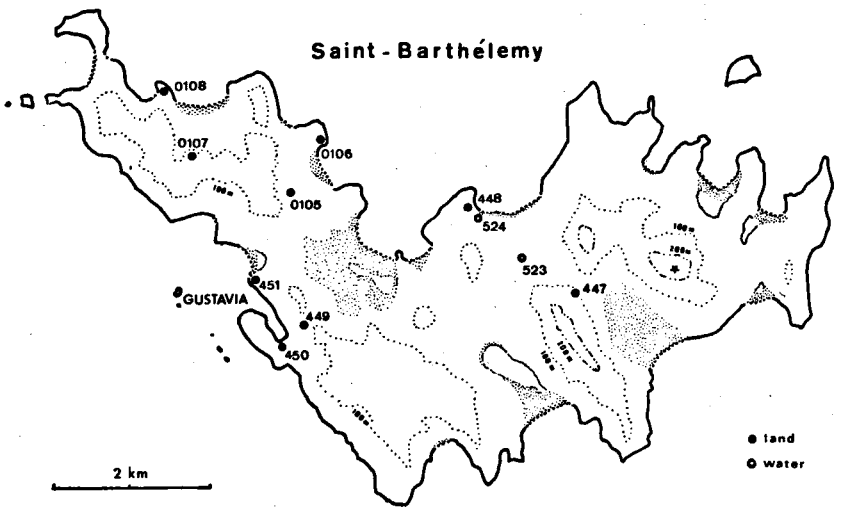


Fig. 11. SAINT-BARTHÉLEMY, with station numbers of land and fresh-water localities.

448 NORTHWEST OF LORIENT, 3.VI.1949. [*4* : 23] (Pl. XIVb)

448A — 3.VI.1949. [*4* : 23].

449 GUSTAVIA, yard, 5.VI.1949. [*4* : 24]

450 GUSTAVIA, harbour, 1.VI.1949. [*4* : 24]

451 PUBLIC, 4.VI.1949. [*4* : 24]

0105 FORK COLOMBIER – ANSE DES CAYES, 18.VII.1973.
50?; tuffoid non-calcareous rock; rocky slope with sparse vegetation (cattle?); debris.

0106 HILL N OF ANSE DES CAYES, 18.VII.1973. (Pl. XIVa)
10–20; limestone; sparse vegetation near sea, *Croton flavens* and few small trees, semi-cultivated (goats); among debris.

0107 FORK COLOMBIER-ANSE DES FLAMANDS, 18.VII.1973.
10–20; limestone; rather dense vegetation with *Croton*, small trees and *Cephalocereus*; plant decay and rock debris.

0108 HILL W OF ANSE DES FLAMANDS, 18.VII.1973.
20–40; limestone near shore; sparse vegetation (goats); some debris.

Saba (Fig. 12; Pl. XV–XVI)

298 ROAD TO (THE) BOTTOM at S-curve, 18.III.1937. [*2*: 42] (Pl. XVa)
298A — 19.VII.1949. [*4* : 23]
298B — 19.VII.1949. [*4* : 23]
298C — 6.X.1963; 150; andesite rock; shrubs with *Tamarindus* and other small trees; rock debris, pieces of concrete and some plant decay.
298D — 7.VII.1973; as before.

434 SPRING BAY, 28.VII.1949. [*2*: 42; cf. *51*: XIVa]

435 SULPHUR MINES behind the Ridge, 27.VII.1949. [*4* : 22]

436 TUNNEL OF SULPHUR MINE, 27.VII.1949. [*4* : 22]

437 HELLSGATE, slope of the Mountain, 25.VII.1949. [*4* : 22]

438 HELLSGATE, Water Hole, 25.VII.1949. [*4* : 22]

439 BEHIND THE MOUNTAIN (top of Mt. Scenery), 26.VII.1949. [*4* : 23]
439A — 26.VII.1949. [*4* : 23]
439B — 26.VII.1949. [*4* : 23]
439C — 8.VII.1973; 810; bananas, dead trees, mosses; decaying leaves, mould and rock fragments on clayish soil.

440 BEHIND THE MOUNTAIN, W. 26.VII.1949. [*4* : 23]

441 KATES HILL, Windwardside, 25.VII.1949. [*4* : 23]

442 THE LEVEL, southern slope, Windwardside, 25.VII.1949. [*4* : 23]
442A — 4.X.1963; 400; weathered andesite, semi-cultivated, considerable growth of shrubs and trees; decay of *Artocarpus*, etc.

443 THAIS HILL, 28.VII.1949. [*4* : 23]

444 GREAT HILL, 19.VII.1949. [*4* : 23]
444A — ENE slope, 350 m, 9.VII.1973.

713 COVE BAY near Flat Point, 5.X.1963.
½; andesite; bare rock with decay of *Syringodium*, pieces of *Sargassum*.

714 COVE BAY, 5.X.1963.
3–5; andesite; shore vegetation; sandy leaf decay of *Coccoloba uvifera*.

715 TOM'S GUT, S of Rendez-Vous, 7.X.1963.
350; andesitic tuff beds; scanty shrubs with a few small trees; slope with *Pisonia subcordata;* among pieces of rock.

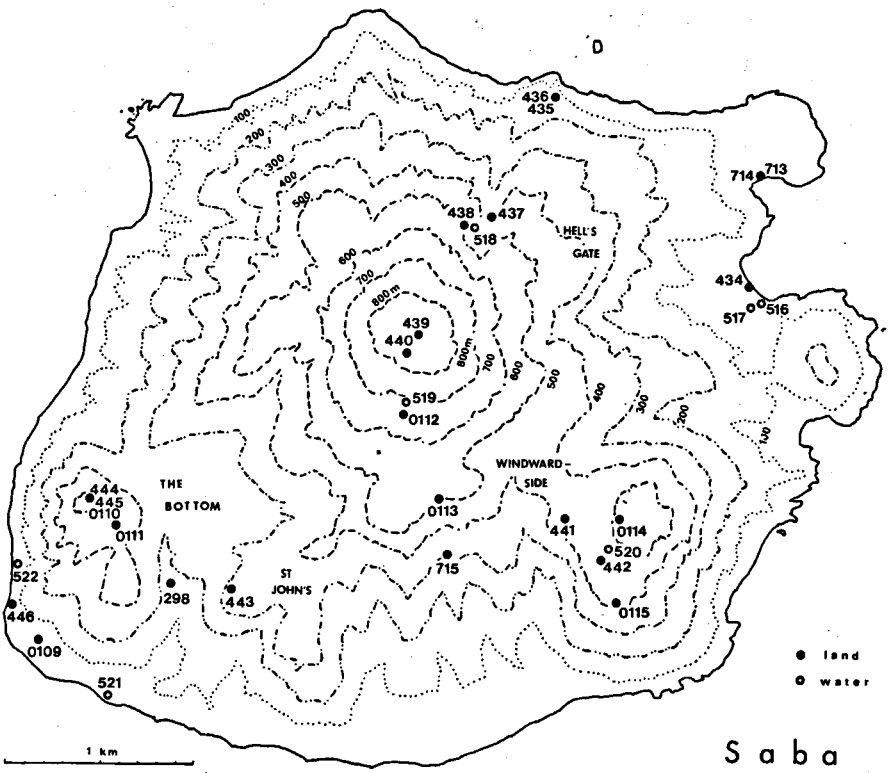


Fig. 12. Sketch-map of SABA, showing station numbers of land and fresh-water localities.

0109 SLOPE OF BUNKER HILL at Tent Bay, 7.VII.1973. [cf. *51* : XIVa]
20–40; andesite; dusty area near quarry with scanty vegetation, some leaf decay of shrubs, *Gossypium*.

0110 GREAT HILL, eastern slope, 9.VII.1973. (Pl. XVb)
370; andesitic rock with Bromeliaceae and Araceae; some plant decay in fissures.

0111 GREAT HILL, Paris, 9.VII.1973.
330; weathered andesitic rock; sparse shrubs; some decay of Bromeliaceae.

0112 SOUTHERN SLOPE OF THE MOUNTAIN (Mount Scenery), 8.VII.1973. (Pl. XVIb)
650; dense growth of Araceae, ferns, and Bromeliaceae with a few palms; wet plant decay.

0113 SOUTHERN SLOPE OF THE MOUNTAIN at Big Rendez-Vous, 8.VII.1973.
500; semi-cultivated area; boulders with garbage.

0114 THE LEVEL, 6.VII.1973.
500; dense growth with Araceae, vine-cactuses, mosses, etc.; some plant decay.

0114A — 6.VII.1973; 480; roadside of weathered soil; some decay.

0115 BOOBY HILL, 6.VII.1973.
400; clearing on top with dead Bromeliaceae.

St. Eustatius (Statia) (Fig. 13; Pl. XVII–XIX)

297 ORANJESTAD, E, 18.III.1937. [*2* : 42]
297a — 16.VII.1949. [*4* : 22]

423 TOBY GUT, S of Quill, 14.VII.1949. [*4* : 21]

424 BIG GUT, White Wall, 6.VII.1949. [*4* : 21]

425 WHITE WALL, top, 6.VII.1949. [*4* : 21]

426 QUILL, above White Wall, 6.VII.1949. [*4* : 21]

427 BOTTOM OF THE QUILL, NE, 12.VII.1949. [*4* : 21] (Pl. XVIIa)
427A — 11.VII.1973; 280; small grove of bananas surrounded by high shrubs and large trees; plant decay.
427B — 11.VII.1973; 285; boulders of volcanic rock, high shrubs and trees; some plant decay.

428 IN THE QUILL, E, 12.VII.1949. [*4* : 21] (Pl. XVIIb)

429 DE KANT, W rim of The Quill, 12.VII.1949.
429a — 11.VII.1973; 400; resting place below high shrubs; some decay and litter.

430 GLASS BOTTLE, W of Quill, 12.VII.1949. [*4* : 22]
430A — 11.VII.1973; 330; N slope of Quill with high shrubs.

431 GLASS BOTTLE, pasture, 12.VII.1949. [*4* : 22]
431A — decaying tree, 12.VII.1949. [*4* : 22]

432 DOWNTOWN, Billy Gut, 11.VII.1949. [*4* : 22]
432A — 24.II.1949. [*4* : 22]

433 CONCORDIA BAY, 8.VII.1949. [*4* : 22]
433a — 10.X.1963; ½; sandy rock debris with decaying *Halodule* and *Sargassum*.
433b — 11.VII.1973; some sea grass [*51* : XVb]
433A Schilpaddenbaai, 21.II.1949. [*4* : 22]

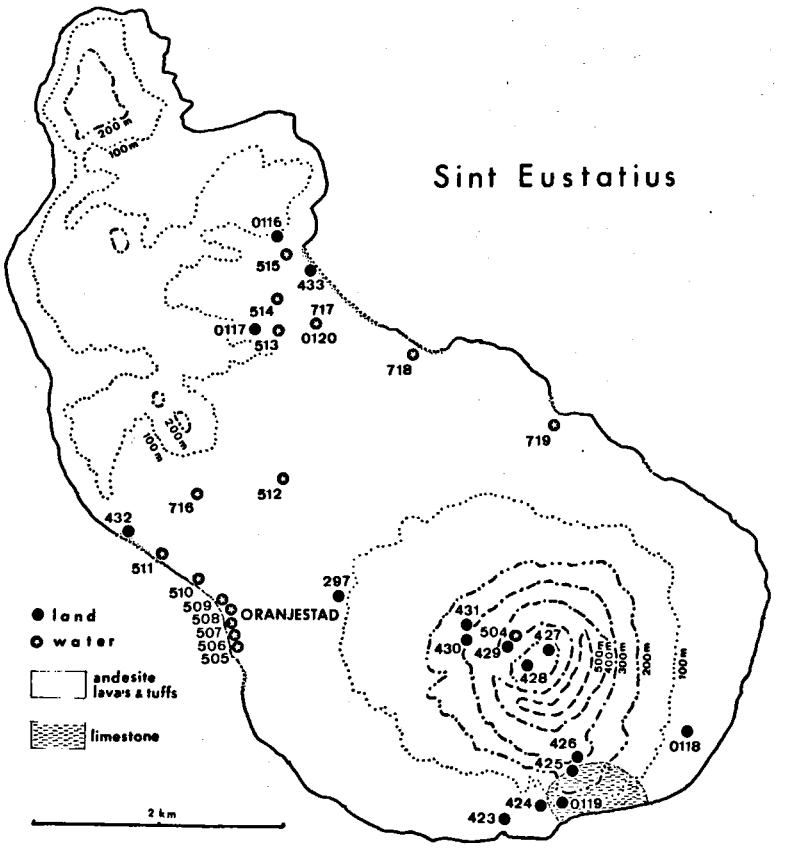


Fig. 13. Sketch-map of ST. EUSTATIUS, with station numbers of land and fresh-water localities.

0116 GILBOA HILL at Zeelandia, 12.VII.1973.
50; andesite; steep eastern slope with *Melocactus, Opuntia* and *Agave*; some plant decay in fissures.

0117 SOLITUDE near Zeelandia, 11.VII.1973.
30; rocky area with little vegetation; some leaf decay.

0118 COMPAGNIE, E of Quill, 13.VII.1973.
50; rocky area with a few shrubs (goats); some debris.

0119 SUGAR LOAF GUT, NW, 12.VII.1973. (cf. Pl. XIXa)
30–40; limestone debris with some plant decay.

Saint Christopher (St. Kitts) (Pl. XIX)

296 BASSETERRE, 19.III.1937. [*2* : 42]

417 MORNE HILLS, E of Basseterre, 29.VI.1949. [*4* : 20]
417A — 2.VII.1949. [*4* : 20]

418 BASSETERRE, waterfront, 30.VI.1949. [*4* : 21]

419 LA GUÉRITE, Agric. Exp. Sta., 2.VII.1949. [*4* : 21]

420 WINGFIELD RIVER, 30.VI.1949. [*4* : 21]

421 BRIMSTONE HILL, top, 30.VI.1949. [*4* : 21]

422 BRIMSTONE HILL, NW foot, 30.VI.1949. [*4* : 21] (Pl. XIXb)

604 TIMOTHY HILL at Frigate Bay, 20.VII. 1955.
5–20; andesitic tuffs: xerophytic shrubs with small trees and *Agave*; rock debris and some plant decay.

605 BRIMSTONE HILL, SE cliff, 21.VII.1955. (cf. Pl. XIXb)
80?; marly limestone slabs near sugar cane fields; scanty shrubs with grasses; limestone debris with some decay and goat droppings.

Nevis

413 FORT CHARLES, Charlestown, 28.VI.1949. [*4* : 20]

414 JESSOPS VILLAGE, 28.VI.1949. [*4* : 20]

415 MOSQUITO BAY, 28.VI.1949. [*4* : 20]

416 JONES RIVER, 28.VI.1949. [*4* : 20]

Barbuda (Fig. 14; Pl. XXI)

596 MARTELLO TOWER, 8.VII.1955.
1–1½; sand and limestone; beach vegetation with *Coccoloba* and *Cocos*; leaves of *C. uvifera* and dead *Cocos*.

597 RIVER QUARTER, W of Bull Hole, 9.VII.1955. (cf. XXIIa)
1–2; limestone flat inundated after rains; partly covered with shrubs and low trees; some plant debris in fissures.

598 HIGHLANDS near Dark Cave, 6.VII.1955.
20; limestone; xerophitic shrubs; below slabs of limestone and in fissures with scanty plant decay.

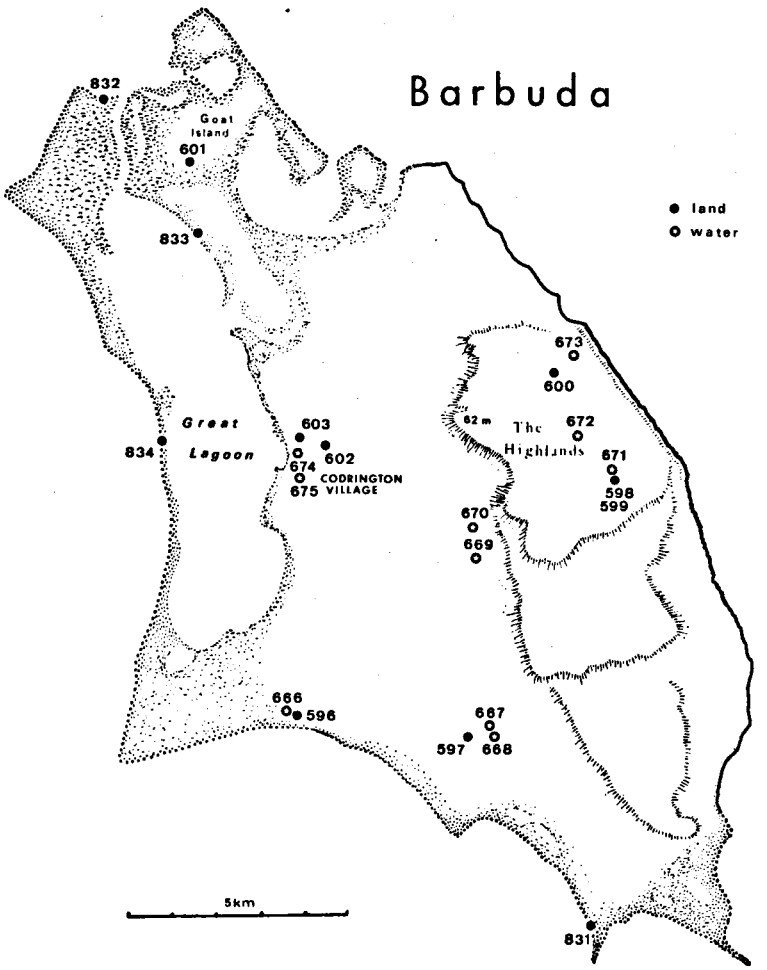


Fig. 14. BARBUDA, with station numbers of land and fresh-water localities.

599 HIGHLANDS at Dark Cave, 6.VII.1955.
10; sink-hole in front of cave entrance, scattered high shrubs; leaf decay in fissures, debris of limestone.

600 HIGHLANDS at Darby's Cave, 10.VII.1955. [cf. *51*: XVIIIb]
5; sink-hole about 20 m deep and 100 × 60 m, considerable growth of palms and high trees; leaf decay and dead wood among limestone boulders.

601 GOAT ISLAND, S part, 11.VII.1955.
2?; limestone covered with weathered soil, inundated sometimes; scattered xerophytic shrubs; very little leaf decay, below rock debris.

602 NORTH OF CODRINGTON VILLAGE, 11.VII.1955.
2; xerophytic shrubs with *Agave* and cacti; some plant decay.

603 CODRINGTON VILLAGE, northwestern plain, 5.VII.1955.
1; limestone flat, partly inundated after rains, shore vegetation with scattered shrubs; scanty plant debris in fissures, remnants of old wall, cattle dung.

603a Low Pond plain, 24.VII.1967; under rock debris.

831 COCO POINT beach, 23.VII.1967.
0–1; white-sand beach; *Sargassum, Syringodium, Turbinaria* and *Thalassia* cast ashore.

832 GREAT LAGOON at Billy Point, W of entrance, 22.VII.1967.
1–1½; sand beach; decaying *Syringodium* and *Thalassia*, dried.

832A — 22.VII.1967; *Syr.* and *Thal.* cast ashore, wet.

833 GREAT LAGOON at Cuffy Creek, 22.VII.1967.
0–½; muddy sand flat with some decay.

834 GREAT LAGOON at Palm Beach, 23.VII.1967.
0–½; muddy sand with decay of *Syringodium* and *Thalassia*.

Antigua

591 NEAR BAT'S CAVE, E of Nelson's Dockyard, 13.VII.1955.
50?; limestone; considerable growth of xerophytic shrubs; below rocks and in fissures with some plant decay.

592 BAT'S CAVE, E of Nelson's Dockyard, 13.VII.1955.
30; silicified tuffoid rocks with limestone; dark cave of about 75 m long, 3–10 m wide and 1½ m high; thick deposits of fresh bat faeces (of *Brachyphylla cavernarum*).

593 PARHAM HILL, S slope, 14.VII.1955.
50?; limestone; xerophytic shrubs with *Agave* and a few *Pisonia* trees; weathered soil with some plant decay.

594 FRIARS HILL, S of Agr. Exp. Sta., 16.VII.1955.
50–70; weathered rock; scattered shrubs; debris in semi-cultivated pasture.

594A — 16.VII.1955; 70–80; leaf-sheaths of *Tillandsia*.

595 YEPTON MILL, W of St. John's, 17.VII.1955.
15; decomposed rocks, cultivated area with grasses, shrubs, cacti and *Tamarindus;* under pieces of rock, dead wood.

595A — 17.VII.1955; 50; rocky slope; shrubs and small trees; leaf decay, *Tillandsia utricularia.*

835 DICKINSON BAY, beach, 19.VII.1967.
0–1; white sand with *Syringodium* and *Thalassia* cast ashore.

Montserrat

836 FOXES BAY, NW Plymouth, 20.VII.1967.
½–1; blackish sand beach with e.g. *Hippomane mancinella,* used for recreation; some debris.

837 PLYMOUTH, Agr. Exper. Gardens, 20.VII.1967.
10–20?; cultivated area; some plant debris.

Guadeloupe

720 PLAGE CONCHOU, E of Moule, 29.I.1964.
0–½; beachrock; decaying algae.

721 CAVE CONCHOU, 29.I.1964.
20?; limestone; 15 m deep cave in cliff near coast; some debris with very little bat guano.

722 NEAR CAVE D'AUTRE BORD, E of Moule, 29.I.1964.
20?; limestone; rocky slope with xerophytic shrubs; some plant decay.

723 CAVE D'AUTRE BORD, 29.I.1964.
20?; limestone; 15 m deep cave in cliff; some debris with very little bat faeces.

724 RAVINE DE BOISVIN, S of Moule, 29.I.1964.
100?; tuffoid rock with limestone; slope with high shrubs and small trees; rock debris with scanty plant decay.

725 USINE GARDEL, SE of Moule, 30.I.1964.
50?; cultivated area on limestone; sugar cane field; decaying cane leaves.

726 USINE GARDEL, 30.I.1964.
50? bananas; decaying banana trees.

842 GOZIER, 16.VII.1967.
0–½; white sand beach; *Sargassum* and other algae cast ashore.

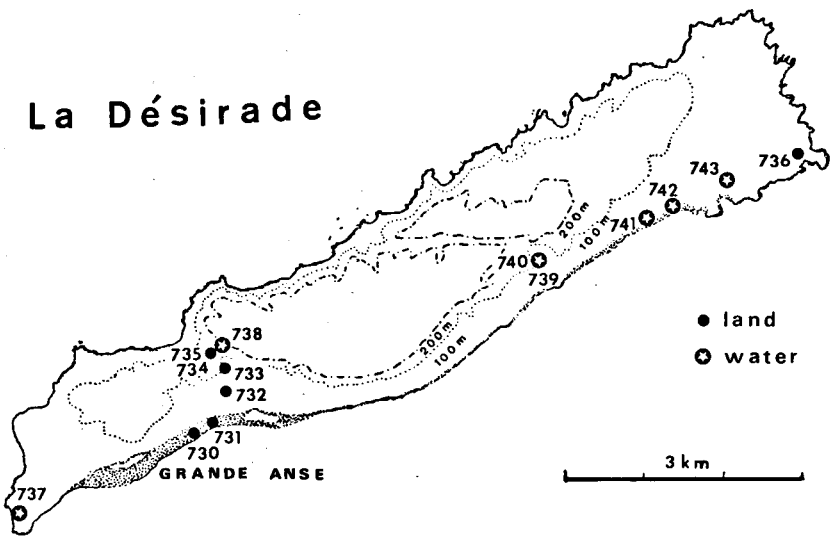


Fig. 15. LA DÉSIRADE, showing numbers of land and fresh-water localities.

La Désirade (Fig. 15; Pl. XXIII)

730 GRANDE ANSE, 25.I.1964. [*51* : XXb]
½; white sand beach; thick layer of decaying *Thalassia* with *Syringodium.*

731 GRANDE ANSE, 25.I.1964. [cf. *51* : XXb]
1; sand; coconut grove; dead cocos leaves on almost pure sand.

732 NEAR GRANDE ANSE, 23.I.1964.
30; limestone; considerable growth of shrubs and a few small trees; decomposing rock and plant decay.

733 NORTH OF GRANDE ANSE, 26.I.1964.
150; limestone; dense growth of high shrubs and small trees; rock debris and plant decay, for the greater part *Coccoloba uvifera.*

734 LE CALVERT, N of Grande Anse, 26.I.1964.
200; limestone; shrubs and trees; Bromelias.

735 LE CALVERT (Calvarie), 26.I.1964.
210; limestone; dense growth with small trees; boulders with plant decay, chiefly from *Coccoloba uvifera.*

736 POINTE DOUBLÉ, near abandoned Meteorol. Station, 24.I.1964.
50?; limestone terrace; scanty growth of shrubs, mainly *Croton* and cacti; below rocks, in fissures, scanty plant debris, some sheep faeces.

Marie – Galante (Fig. 16)

744 CAPESTERRE, Les Galeries, 2.II.1964.
1; sandy; shrubby shore vegetation; beach debris.

745 TROU À DIABLE, 1.II.1964.
5–20; limestone; wet clayish soil from holes and fissures (washed in from the surface) 50–200 m from entrance of dark cave, eight putrifying bats.

746 GRELIN, 1.II.1964.
50?; limestone; dense shrubs and pasture; rocks, plant decay.

747 RAVINE DU VIEUX FORT, Vangout, 31.I.1964.
10?; limestone; shrubs and small trees on N slope; rock debris with scanty plant decay.

748 FALAISE DES SOURCES, 1.II.1964.
20–40?; limestone; rather scanty growth of shrubs in semi-cultivated area; rock debris with a little plant decay.

Îles des Saintes

757 TERRE-DE-HAUT, Fortress, 6.II.1964.
30; andesite; xerophytic shrubs; refuse, moulding timber, some plant decay.

758 TERRE-DE-HAUT, N slope of Chameau, 6.II.1964.
90; andesite; xerophytic shrubs; rock debris with some plant decay.

Dominica

843 ROSEAU, Botan. Gardens, 14.VII.1967.
50?; cultivated, area; leaf decay, dead wood and mould.

844 ROSEAU, near Botan. Gardens, 14.VII.1967.
100–150; soft tuffoid rocky slope; growth of shrubs, trees and bamboo; some debris.

845 PORTSMOUTH, Prince Rupert Point swamp, 15.VII.1967.
½–1½; swampy area with beach vegetation and *Cocos*; some debris.

Islote Aves (Isla Aves)

410 EASTERN SHORE, 12.V.1949. [*4* : 20]

411 SOUTHERN PART, 12.V.1949. [*4* : 20]

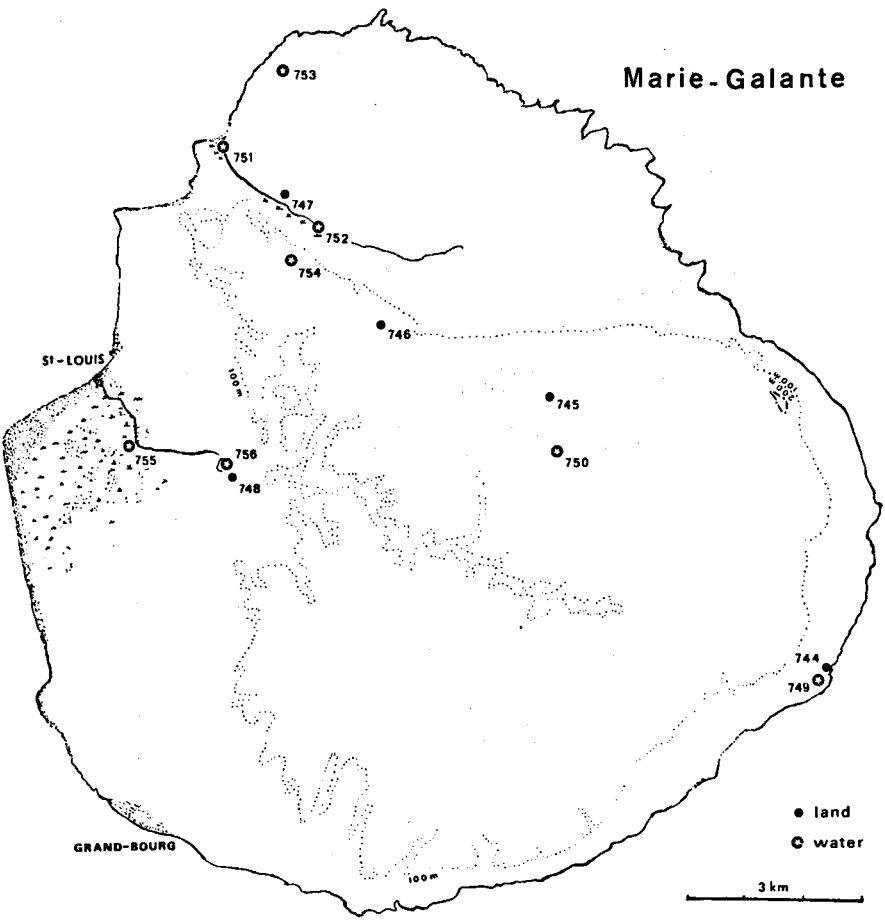


Fig. 16. MARIE-GALANTE, with numbers of land and fresh-water localities.

412 CENTRAL PART, 12.V.1949. [*4* : 20]

Martinique (Fig. 17)

761 BAIE DE TARTANE, Caravelle, 9.II.1964.
½; sandy; decay of *Sargassum* and rubbish cast ashore.

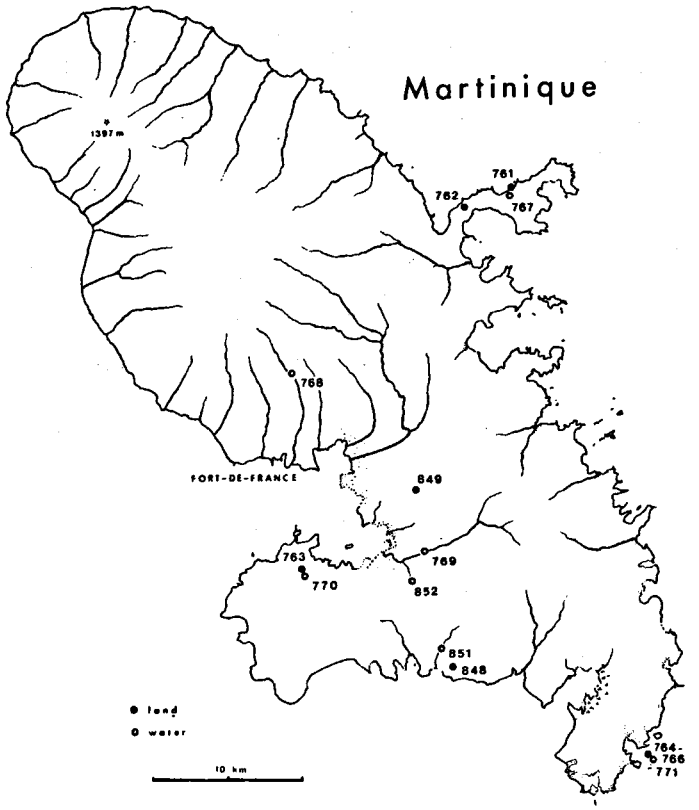


Fig. 17. MARTINIQUE, with numbers of land and fresh-water localities.

762 POINTE DE LA BATTERIE, Caravelle, 9.II.1964.
50?; limestone at quarry; shrubs and small trees; rock and plant debris.

763 LA PAGERIE, near Trois Îslets, 10.II.1964.
30?; andesitic rock; remnants of rum factory, among bamboes.

764 ISLET HARDY, beach, W, 11.II.1964. [*51* : XXIa]
¼; sand; thick layer of wet algae.

765 ISLET HARDY, western slope, 11.II.1964. [*51* : XXIa]
2–20; porous limestone; some small weeds only; some debris from fissures almost without plant decay.

766 ISLET HARDY, eastern shore, 11.II.1964.
20; porous limestone; dense growth of *Sesuvium* in spray; in fissures and among *S. portulacastrum*.

766A — 11.II.1964; very little rubbish from narrow, 20–25 m deep holes with breeding *Puffinus*.

848 TROIS RIVIÈRES, 3.5 km W of S.te Lucie, 12.VII.1967.
½–1; mudflat; *Cocos* grove (*Cardisoma* crabs); cocos decay, stems, leaves and husks.

849 DUCOS, 12.VII.1967.
2–5?; clayish soil with banana trees; dead leaves.

St. Lucia

853 GROS ISLET, Mongrioud, 11.VII.1967.
2–5?; decomposed volcanic rock; banana trees with breadfruit; mould and decay.

St. Vincent

855 DIAMOND, St. George, near bridge of Ribishi River, 10.VII.1967.
50; decomposed volcanic rock; grove with bananas and breadfruit; leaf decay on clayisch soil.

856 CALLIAQUA BAY at Johnson Point, 10.VII.1967.
0–½; sand ; scanty plant debris with leaves of *Coccoloba uvifera* (*Uca*).

857 CALLIAQUA BAY near Johnson Pt., 10.VII.1967. [cf. *51* : XXIIa]
10; remains of building; plant decay on and in fissures of masonry.

857a — 10.VII.1967; 30; litter of shrubs and tree.

Barbados (Fig. 18; Pl. XXVII)

772 CHERRY TREE HILL, N of Belleplaine, 17.II.1964.
100?; marly limestone; shrubs, in part cleared; rock debris with very little plant decay.

773 LONG POND, near Belleplaine, 17.II.1964.
1; muddy sand ; poor brackish pasture; below timber and cow dung.

773A — 17.II.1964; muddy sand near brackish water pond; woody plant debris.

774 HACKLETON'S CLIFF at Horse Hill, 20.II.1964.
100?; marly limestone; well-wooded gully with *Cocos* and *Musa*; rock debris with leaf decay.

775 COLE's CAVE, N of Walker Spring, 21.II.1964.
2–15; limestone; wet, clayish soil and bat faeces covering dripstone deposits about 100 m from entrance and about 60 m below surface.

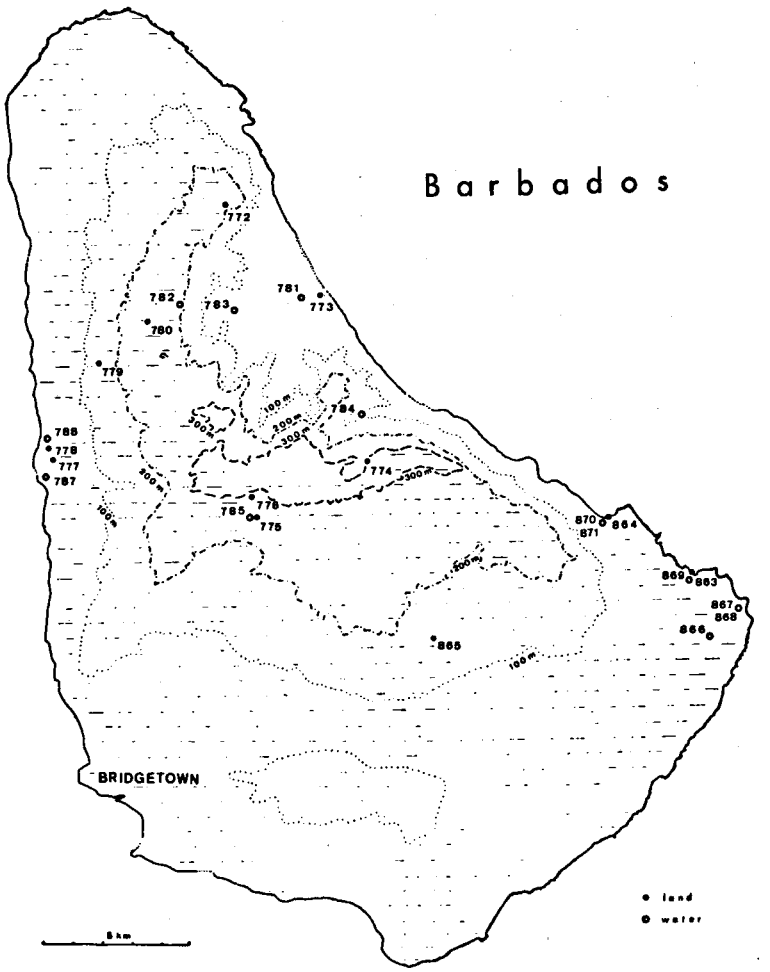


Fig. 18. BARBADOS, showing numbers of land and fresh-water localities.

775A —21.II.1964; 25?; animal remains with some bat feaces on rimstone at 20 m from entrance and about 50 m below surface of limestone terrace.

776 WELCHMAN HALL'S GULLY, S of bridge, 20.II.1964.
50?; limestone; shrubs and weeds in gully about 25 m deep and 40 m wide; below rock debris and among plant decay often mixed with human waste.

777 PORTER'S GULLY, NE of Holetown, 15.II.1964.
20 ; limestone; rather high shrubs near low escarpment; rock debris with some plant decay.

778 PORTER'S WOOD, N of Holetown, 15.II.1964. (Pl. XXVIIb)
5; decomposed limestone; high trees of mahogany, without undergrowth except a few grasses; dry leaves and dead trunk of *Swietenia mahagony*.

779 SION HILL, St. James, 12.VI.1962. (Louise J. van der Steen coll.)

780 ROCK HALL, St.Peter, 12.VI.1962. (L. J. v. d. Steen coll.)

863 SALT BEACH OF MARLEY VALE, W of Ragged Point, 6.VII.1967.
0–½; sand ; some decay of *Sargassum*.

864 CONSET BAY, 6.VII.1967.
0–½; muddy sand near mouth of rivulet; decay of *Sargassum* and other sea weeds.

865 DRAX HALL grounds, St. George, 7.VII.1967.
200?; decomposed limestone; Evergreen Trees bordering drive way; garden-litter.

Grenada (Fig. 19)

586 POINT SALINES, 26.I.1955.
60; volcanic tuffs; scattered shrubs on grassy slopes near coast; rock debris with some decay and cow dung.

587 ST.GEORGE'S , Martin Bay, 22.I.1955.
5; decomposed volcanic rock; scattered shrubs and trees near shore; rock debris, behind the bark and near base of dead *Ceiba*.

588 CORINTH ESTATE, St. David, 25.I.1955.
80?; volcanic rock; cocoa estate with banana and coconut trees; leaf decay of *Theobroma, Musa* and *Cocos*.

589 GRAND ÉTANG ROAD, at bridge, 24.I.1955.
500 ; volcanic tuff; grasses, weeds and ferns; plant remains with mosses.

589A — 24.I.1955; 400; ferns and mosses in sunken road; among ferns, *Selaginella* and mosses from rocky walls.

590 GRAND ÉTANG, 24.I.1955.
500;volcanic tuffs; forest with ferns, *Selaginella* and mosses near lake; wood decay, ferns and mosses.

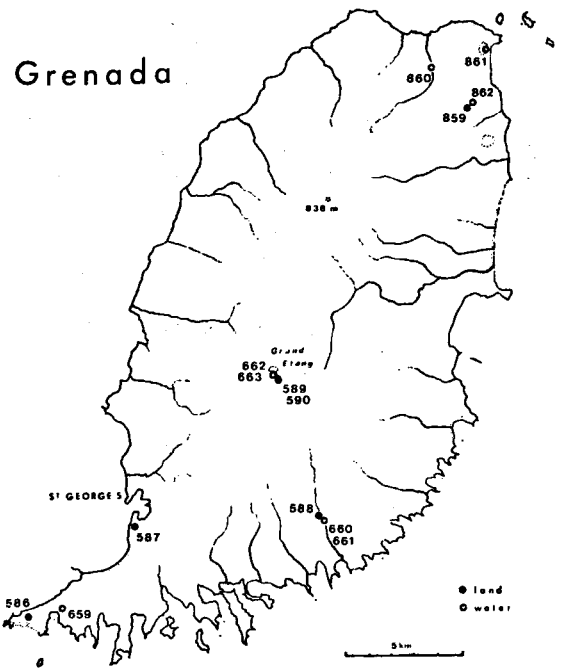


Fig. 19. GRENADA, with station numbers of land and fresh-water localities.

859 MINERAL SPRINGS near River Sallee, 9.VII.1967.
30?; volcanic tuffs with alkaline and sulfur deposits; some shrubs ; plant decay.

Tobago

581 STORE BAY, near Milford, W point, 17.I.1955.
3; limestone with sandy soil; dry shrubs near cultivated area , 10–30 m from shore; pieces of coral with scanty plant debris.

582 AIRPORT, S, near West Point, 17.I.1955.
10; limestone; scattered trees in semi-cultivated grassy area; rocks with plant decay, cattle dung.

582A — 17.I.1955; shallow sink-hole with shrubs; limestone with plant decay.

583 ROCKLEY BAY beach, 20.I.1955.
½; rock of volcanic origin; decaying *Sargassum* and other flotsam.

584 LITTLE TOBAGO, 18.I.1955.
50; volcanic rock; considerable growth of shrubs and small trees, decay of palm trees, *Clusia* and shrubs.

585 LITTLE TOBAGO, at landing, 18.I.1955.
5–10; volcanic rock; shrubs and scattered small trees; rock fissures with debris and decay.

Trinidad (Fig. 20)

295 TETERON BAY, 7.V.1936. [*2* : 42]
295A Four Roads, 7.V.1936. [*2* : 42]

365 ST. AUGUSTINE, I.C.T.A., 8.VIII.1948. [*4* : 19]

366 ST. AUGUSTINE, I.C.T.A., 8, VIII.1948. [*4* : 19]

367 PORT-OF-SPAIN, waterfront, 8.VIII.1948. [*4* : 19]

568 MOUNT TAMANA quarry, 9.I.1955.
130; limestone; shrubs and small trees; rock debris, moulding stems, decay.
568A — 9.I.1955; mainly cocoa trees; mosses on *Theobroma*.

569 TAMANA BAT-CAVE, entrance, 9.I.1955.
230; limestone; moss-grown trees and rocks; clayish plant remains on and between rocks.
569A — 9.I.1955; chimney; clayish plant decay (dusk).

570 TAMANA BAT-CAVE, top of Mount Tamana, 9.I.1955.
230; limestone; bat manure on weathered dripstone (dark).

571 ARIPO ROAD, Northern Range, 30.I.1955.
400; limestone schists; heavily wooded; plant decay.

572 CERRO DEL ARIPO, N. Range, 30.I.1955.
600–800; limestone; heavily wooded, *Maranta*, ferns and mosses; among ferns and mosses, decay in fissures.

573 ARIPO, CAVE, N. Range, 30.I.1955.
800; limestone; 15 × 15 m wide entrance of oilbird cave with germinating palm seeds (dusk); faeces of *Steatornis* with some plant decay.

574 NORTH COAST ROAD near La Vache Bay, 29.I.1955.
200; schists; shrubs and weeds near watertrack; leaf decay with ferns and mosses.

575 ST.AUGUSTINE, I.C.T.A., 31.I.1955.
5; banana experimental plot; leaf decay of *Musa* on clayish soil.
575A — 31.I.1955; cocoa; some leaf decay of *Theobroma* with weeds.

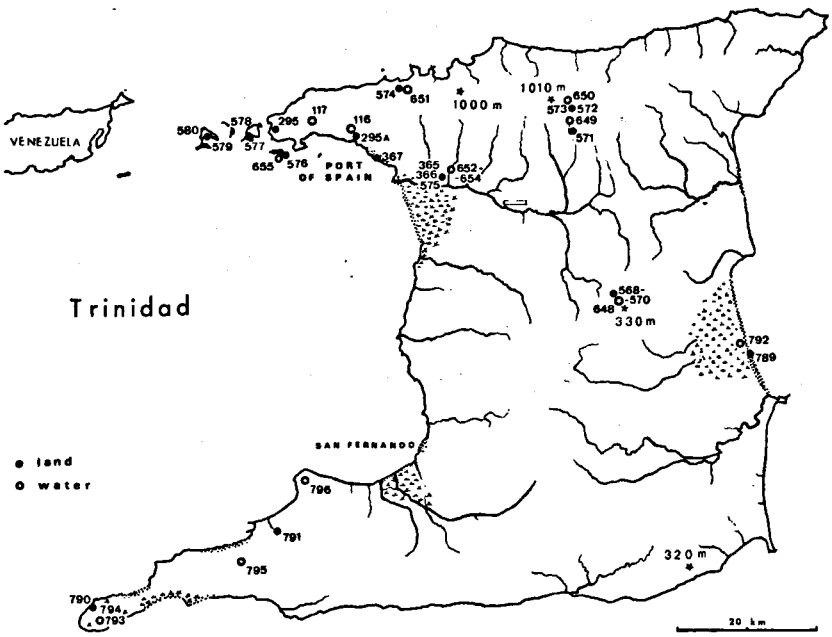


Fig. 20. TRINIDAD, showing land and fresh-water localities.

576 GASPARO GRANDE (island), 11.I.1955.
15–20; limestone; chimney of 20 m deep cave with a few shrubs and trees around (shade); decay of *Clusia* on clayish soil, mould.

577 MONOS (island), South Sea Bay, 10.I.1955.
½–1; sand, schist debris; abandoned cocos grove; some decay of *Cocos*.

578 MONOS, South Sea Bay, 10.I.1955.
5–20; schists; underbrush; some decay with rock debris.

579 CHACACHACARE (island), Bande du Sud, 11.I.1955.
½–1; sand and schists; decaying *Sargassum*, sandy rock debris.

580 CHACACHACARE, Bande du Sud, 11.I.1955.
1 – 20; schists; dry scrub and beach vegetation; some decay with debris.

789 COCOS BEACH at Nariva Bridge, 17.I.1964.
½; sand; fallen coconut trees; flotsam without algae.

790 LOS GALLOS Point, 16.I.1964.
½; sand; some beach vegetation, sponges and algae.

791 PERSEVERANCE ESTATE, ESE of Point Fortin, 16.I.1964.
50?; sandy; shrubs near *Cocos* grove; plant decay, mould.

Los Testigos

157 MORRO DE LA IGUANA (island), 14.VI.1936. [*2* : 25; *1* : IIIa]

158 MORRO DE LA IGUANA, top, 14.VI.1936. [*2* : 26]

159 CHIWO (island), 15.VI.1936. [*2* : 26]

160 ANGOLETTA (island), 15.VI.1936. [*2* : 26]

161 TAMARINDO (island), Pos Inglés, 16.VI.1936. [*2* : 26]

162 TAMARINDO, Morro Grande, 16.VI.1936. [*2* : 26; cf *1* : IIIa]

163-B TAMARINDO, top of Morro Grande 16.VI.1936. [*2* : 26]

164 ISLA DE CONEJO, top, 17.VI.1936. [*2* : 26]

165 ISLA DE CONEJO, cave, 17.VI.1936. [*2* : 26]

Los Frailes

166 PUERTO REAL (island), 18.VI.1936. [*2* : 26]

167 PUERTO REAL, 18.VI.1936. [*2* : 26]

168-A LA PECHA (island), 19.VI.1936. [*2* : 26]

Margarita (Fig. 21, Pl. XXX)

131 MORO DE ROBLEDAR, MACANAO, +.V.1936. [*2* : 23]

132 PUNTA AUSENTE, Pedro González, 14.V.1936. [*2* : 23]

133 ALTA GRACIA, Santa Ana, 14.V.1936. [*2* : 23]

134 PARAGUACHÍ, Loma Guerra, 13.V.1936. [*2* : 23)

135 PARAGUACHÍ, La Plaza, 13.V.1936. [*2* : 23]

136 CERRO GUAYAMURI, SW slope, 11.V.1936. [*2* : 23]

137 CERROS DE MATASIETE, S. slope, 27.V.1936. [*2* : 23 ; *1* : IIb]

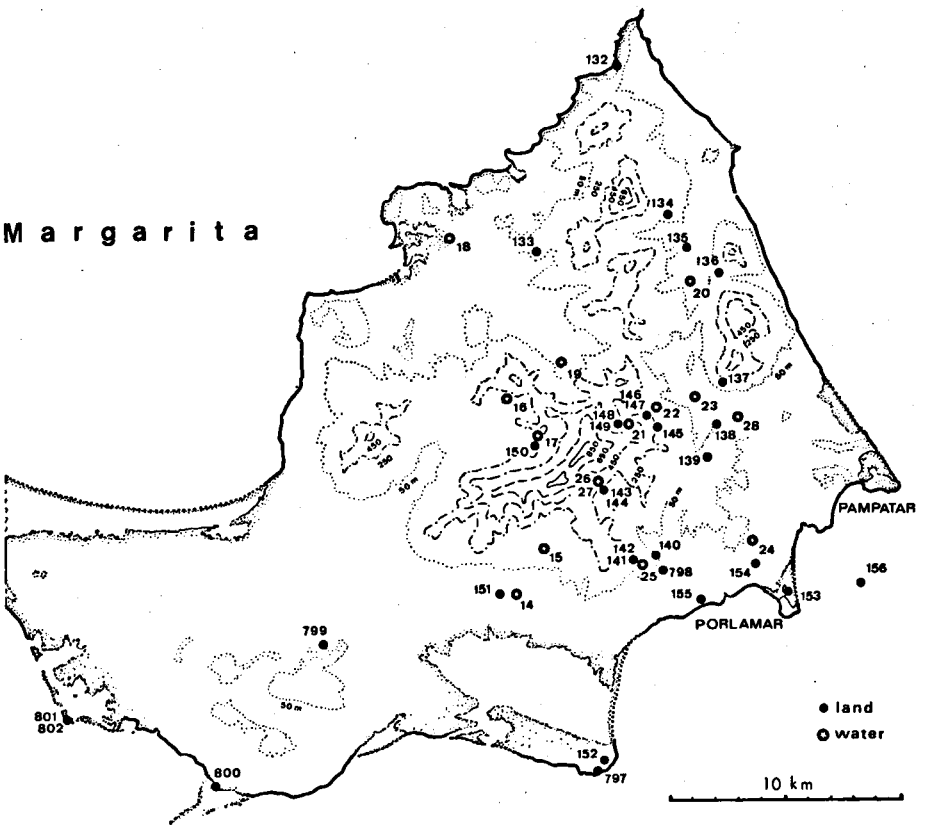


Fig. 21. Eastern part of MARGARITA, with numbers of land and fresh-water localities.

138 EL CERRITO, W of La Asunción, 27.V.1936. [*2* : 23]

139 CERRO DE MARMOLETA, Cerros de Guayacuco, 13.V.1936. [*2* : 23]

140 CERRO DEL PIACHE, NE slope, 10.VII.1936. [*2* : 23]

141-A CERRO DEL PIACHE, Cueba Honda, 10.VII.1936. [*2* : 24]

142 CERRO DEL PIACHE, Cueba Honda, 10.VII.1936. [*2* : 24, fig. 16]

143 TOMA DE AGUA DEL VALLE, 4.VII.1936. [*2* : 24)

144 TOMA DE AGUA DEL VALLE, 4.VII.1936. [*2* : 24 ; *1* : IIa]

145 La Asunción, hill slope, 3.VII.1936. [*2* : 25]

146 La Asunción, hill slope, 3.VII.1936. [*2* : 25]

147 La Asunción, fruit plantation, 3.VII.1936. [*2* : 25]

148 Toma de Agua de La Asunción, 12.VII.1936. [*2* : 25]

149 Toma de Agua de La Asunción, 12.VII.1936. [*2* : 25]

150 Toma de Agua del Encañado, San Juan Bautista, 13.VII.1936. [*2* : 25]

151 San Antonio, 16.V.1936. [*2* : 25, Ia]

152 Punta Mosquito, 4.VI.1936. [*2* : 25]

153 Gaiquire, in lagoon NE of Porlamar, 8 VII.1936. [*2* : 25]

154 Los Robles, 18.V.1936. [*2* : 25]

155 Porlamar, patio, 25.V.1936. [*2* : 25]

156 Isla Blanca, S of Pampatar, 9.VI.1936. [*2* : 25]

797 Punta Mosquito, beach, 13.I.1964.
½; sand from sandy shales; coarse debris with some algae.

798 Cerro del Piache, SE slope, 13.I.1964.
100?; limestone; shrubs and cacti; some plant decay in fissures.

799 El Cuence, N of Punta Carnero, 10.I.1964. (Pl. XXXa)
70?; pitted limestone; shrubs and cacti; plant decay in fissures.

800 Punta Mangle, beach, 10.I.1964.
0–1; sand; decay of algae.

801 Punta de Piedras, beach near Estación Invest. Marinas, 13.I.1964.
½; sand ; decay of algae.

802 Punta de Piedras, near Estación. 9.I.1964.
½; muddy sand; *Rhizophora* and *Avicennia*;leaf decay with some human faeces.

Coche

129 El Guamache, 25.VI.1936. [*2* : 23]

Cubagua

130 NORTHWESTERN PART, 21.V.1936. [*2* : 23]

Los Hermanos

169 MORRO FONDEADERO, 20.VII.1936. [*2* : 27; *1* : IIIb]

170 MORRO PANDO, 20.VII.1936. [*2* : 27]

Blanquilla

171 VALUCHU, 21.VII.1936. [*2*: 27]

172-B EL JAQUE, 22.VII.1936. [*2* : 27]

Tortuga

173-A SOUTHWESTERN PART, 1.VIII.1936. [*2* :27]

Orchila

174 HUESPÉN (island), Cerros de la Federación, 23.VII.1936. [*2* : 27]

175 HUESPÉN, SW part, 23.VII.1936. [*2* : 27]

Los Roques

176 GRAN ROQUE, 25.VII.1936. [*2* : 27]

177 ISLA LARGA, 26.VII.1936. [*2* : 28]

178 CAYO DE AGUA, 26.VII.1936. [*2* : 28]

Las Aves

179-A AVE DE BARLOVENTO, 27.VII.1936. [*2* : 28]

Bonaire (Fig. 22–23; Pl. XXXVI)

180 CAY, entrance of Lac, 29.III.1937. [*2* : 28]
180a — 1.IX.1948. [*4* : 11]
180b — 16.IX.1967; decay of *Avicennia.*
180A — 25.II.1949. [*4* : 11]

181 ZUIDPUNT, 26.III.1937. [*2* : 28]

182 ZUIDPUNT, Lansberg Putten, 26.III.1937. [*2* : 28; cf. *51* : XVIa]
182a — 21.IX.1948. [*4* : 12]

183 GROT VAN WATAPANA, Lima, 1.IV.1937. [*2* : 28, fig. 2]
183a — 14.IX.1967; rocks and bat faeces (dark).
183A — 1.IV.1937. [*2* : 28]

184 LIMA, 14.XI.1936. [*2* : 29]
184A — 31.III.1937. [*2* : 29]

185 LIMA, NW, 14.XI.1936. [*2* : 29]
185A POS BACA, S of Kralendijk, 29.IX.1930. [*2* : 29]
185Aa — 20.IX.1948. [*4* : 12]

186 TANKI GEORGE, Deenterra, 25.III.1937. [*2* : 29; cf. *52* : VIIIa]
186A North of Kralendijk, 20.IX.1948. [*4* : 12]

187 SPELONK, Bolivia, before cave, 24.III.1937. [*2* : 29]
187a — 15.IV.1955: 6; scanty shrubs; decay of *Croton flavens*, limestone debris.

188 SPELONK, Kamber Largoe, 24.III.1937. [*2* : 29, fig. 4]
188A — 15.IV.1955; debris with faeces of *Glossophaga* (dark).
188B — 15.IV.1955; mosses on weathered stalactites (shade).

189 SPELONK, Kamber Chikitoe, 24.III.1937. [*2* : 29, fig. 4]

190 FONTEIN, escarpment, 25.III.1937. [*2* : 29]
190a — 11.IX.1948. [*4* : 12]
190A — 20.V.1930. [*2* : 29]
190B — 11.IX.1948. [*4* : 12]
190Ba — 8.IX.1967; 60; pockets and fissures of honeycombed limestone with little plant decay.

191 FONTEIN, ruins, 30.III.1937. [*2* : 29]

192 FONTEIN, tunnel of spring, 13.XI.1936. [*2* : 29]

193 FONTEIN, Hofje, 30.III.1937. [*2* : 29]
193A — 11.IX.1948. [*4* : 12]
193Aa — 8.IX.1967; debris of abandoned garden.
193B — 28.III.1949. [*4* : 12]
193C — 8.IX.1967; mosses and limestone deposits from water overflow on wall.

194 TANKI ONIMA, 13.XI.1936. [*2* : 29 ; cf. *1* : IVb]
194b — 19.IX.1948. [*4* : 12]

195 BOCA ONIMA, E, 13.XI.1936. [*2* : 30]

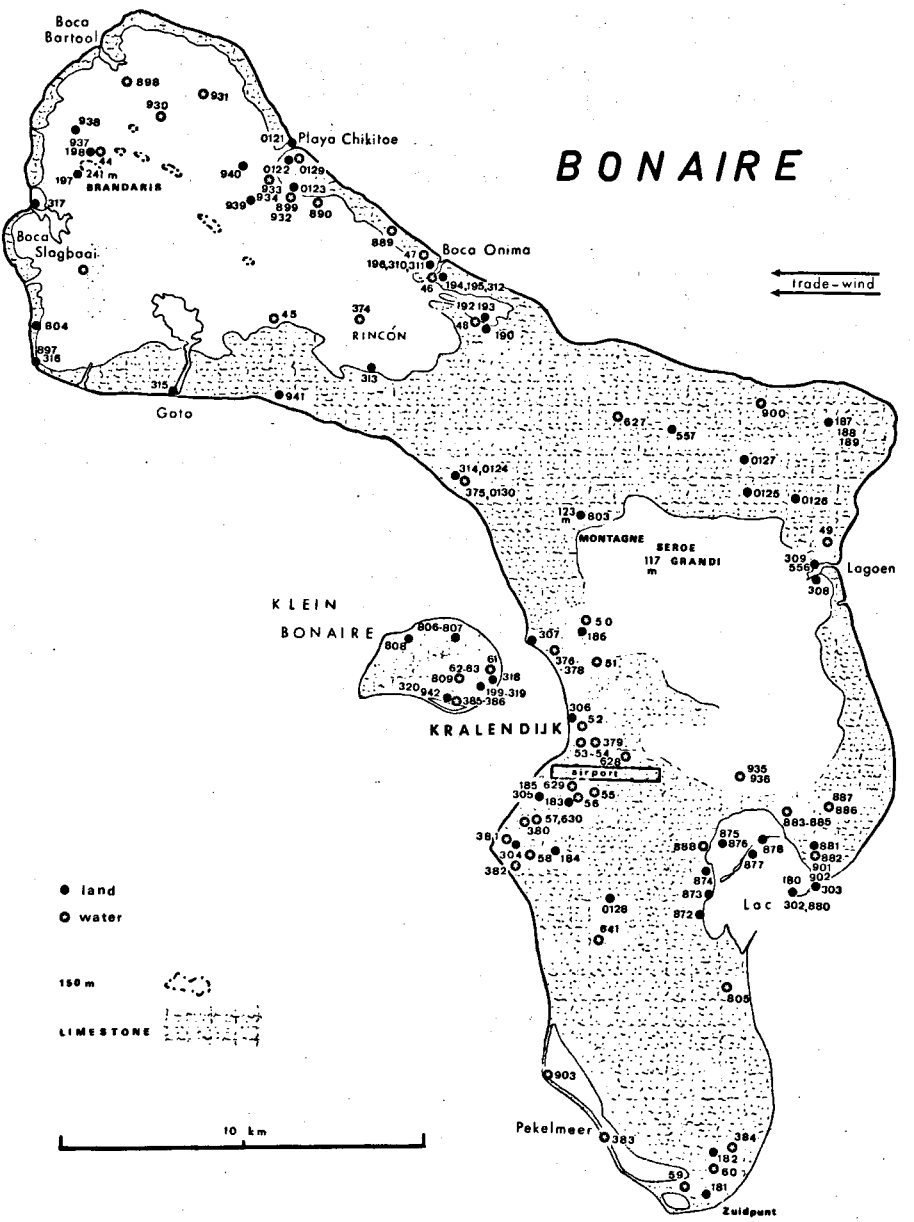


Fig. 22. BONAIRE and KLEIN BONAIRE, with station numbers of land and fresh-water localities.

196 Boca Onima, W. 13.XI.1936. [*2* : 30]

197 Brandaris, 27.III.1937. [*2* : 30]

198 Pos Bronswinkel, 27.III.1937. [*2* : 30]

302 Cay, entrance of Lac, 17.IX.1948. [*4* : 11]

303 Cay, salt pan, 25.II.1949. [*4* : 12]

304 Punt Vierkant, Sabana, 5.IX.1948. [*4* : 12]

305 Lima, NW, 5. IX.1948. [*4* : 12]

306 Kralendijk, shore, 24.III.1949. [*4* : 12]

307 Paloe Lechi, salina, 24.II.1949. [*4* : 12]

308 Lagoen, S shore, 14.IX.1948. [*4* : 12]

309 Lagoen, N shore, 14.IX. 1948. [*4* : 12]

310 Boca Onima, 19.IX.1948. [*4* : 13]

311 Boca Onima, beach, 19.IX.1948. [*4* : 13)

312 Onima, E, 19.IX.1948. [*4* : 13]

313 Pos Dominica, S of Rincón, 15.IX.1948. [*4* : 13]

314 Oeroesjan Blanco, cave of Barcadera, 3.IX.1948. [*4* : 13]

315 Goto, SW shore, 22.II.1949. [*4* : 13]

316 Wecua, S of Slagbaai, 23.II.1949. [*4* : 13]

317 Boca Slagbaai, N, 12.IX.1948. [*4* : 13] (cf. Pl. XXXVIb)

556 Lagoen, N beach, 2.III.1955.
½ ; sandy; thick layer of seaweed, and other flotsam polluted by oil.

557 Bolivia, farm, 15.IV.1955.
25 ; limestone; shrubs and small trees, semi-cultivated; stones, moulding wood, chicken waste.

803 Montagne, W of Curuburu, 4.XII.1963.
110 ; eolianite; scattered shrubs, limestone debris, plant decay.

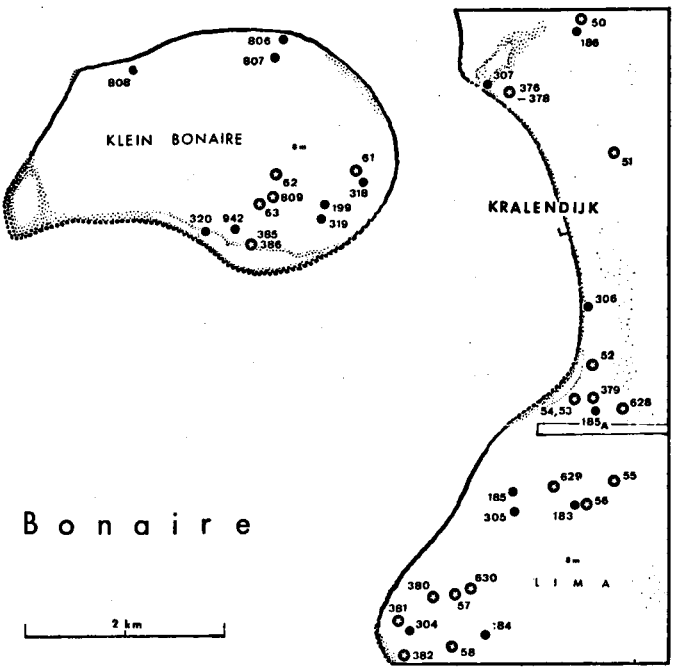


Fig. 23. Part of BONAIRE with KLEIN BONAIRE, showing land and fresh-water localities.

804 DRUIF, Brasiel, 5.XII.1963.
30; limestone and diabase conglomerate; few shrubs, *Opuntia curassavica*; scanty decay in fissures.

872 LAC , Playa Mangel Altu, 23.VIII.1967.
0 – 1 ; sand; dry and wet decay of *Thalassia, Syringodium, Avicennia,* driftwood.

873 LAC , Playa Palu Calbas, 5.IX.1967.
0–½; wet sandy decay of *Thalassia* and *Syringodium.*

873A — 5.IX.1967; ½–1; dry *Thal.*, driftwood.

874 LAC, Rooi Pedro, 200 m N of Boca Pedro, 4.IX.1967.
½–1; sandy limestone beach bordering *Rhizophora* swamp; jetsam, muddy leaf decay, peat.

875 LAC, ISLA JUWANA, 13.VIII.1967.
½–½; limestone, mud; jetsam, most *Cerithidea*, leaves of *Rhizophora*, rock.

876 LAC, ISLA JUWANA, 13.VIII.1967.
½–1; limestone; grasses, low shrubs and cacti; rock debris and decay.

877 LAC, S of Boca Fogon, 14.VIII.1967.
0–¼; *Rhizophora* swamp.

878 LAC, ISLA DI CHICO near Boca Chikitu, 17.VIII.1967.
1–2; sandy key surrounded by *Rhizophora* and saltflats; some low shrubs with *Sporobolus*, etc.

879 LAC, ISLA DI CHICO, 17.VIII.1967.
0–½; *Rhizophora* swamp.

880 LAC, CAI (Cay), 16.IX.1967.
¼–½; muddy sand with *Avicennia;* decay.

881 LAC, near Pos di Cai 9.VIII.1967.
1–1½; limestone flat; pieces of rock, scanty grass with *Opuntia.*

897 PLAYA WECUA, 28.X.1978.
10; limestone terrace; xerophytic shrubs with *Opuntia curassavica;* rock debris with scanty plant decay.

937-A HOFJE BRONSWINKEL, 19.III.1970. [cf. *52* : VIIIb]
40; porfiritic rocks; abandoned fruit garden, xerophitic scrub; scanty debris, decaying cacti.

938 SHISHIRIBANA, Washington, 18.III.1970.
30; non-calcareous soil; shrubs and small trees with *Croton flavens, Haematoxylon, Lemaireocereus, Cereus* and *Opuntia*; very little leaf decay, some mould.

939 CERU (Seroe) MATIJS, S of Salina, Washington, 17.III.1970.
50; non-calcareous rock; shrubs, small trees and cacti; rock debris, little leaf decay, decaying cacti.

940 SALINJA MATIJS, NE, 17.III.1970.
15; limestone, some debris in fissures and pockets.

941 KARPAT, 3.III.1970.
20; limestone cliff; scanty shrubs; in fissures and pockets.

0121 PLAYA CHIKITOE, Washington, 18.VIII.1973.
¼; sand beach; decay of *Sargassum.*

0122 SALINJA MATIJS, terrace E of mouth, 18.VIII.1973.
10; honeycombed limestone with low shrubs and *Melocactus*; below stones and in fissures, very little leaf decay.

0123 WASHINGTON, N of gate, 18.VIII.1973.
12; volcanic rock with limestone; abandoned aloe-field; scanty shrubs with *Cephalocereus* and *Melocactus;* below limestone, some debris.

0124 BARCADERA, near Cave, 12.VIII.1973.
6; limestone terrace; xerophytic scrub and cacti; some plant debris in fissures and pockets.

0125 BOLIVIA, near Rooi Tuna, 14.VIII.1973.
20; limestone; abandoned aloe field; scattered shrubs and cacti; rock debris and decay.

0126 BOLIVIA, Landhuis Boven Bolivia, 14.VIII.1973.
20; limestone; debris of masonry, waste.

0127 BOLIVIA, near Rooi Caohori, 14.VIII.1973.
20; limestone on volcanic rock; some small trees and shrubs; some decay.

0128 LIMA, central part, 4 km from W shore, 20.VIII.1973.
5; honeycombed limestone terrace; shrubs and cacti; some decay in fissures and below slabs of limestone.

Klein Bonaire (Fig. 23; Pl. XXXVII)

199 SOUTHEASTERN PART, 15.XI.1936. [*2* : 30]
199a — 23.III.1937. [*2* : 30]
199b — 15.V.1930. [*2* : 30] (Pl. XXXVIIa; cf. XXXVIIb)
199c — 7.IX.1948. [*4* : 13]
199A — 15.XI.1930. [*2* :30]

318 EASTERN PART, 27.III.1949. [*4* : 23]

319 SOUTHEASTERN PART, 1.IX.1949. [*4* : 13]

320 SALINJA (Salina), N shore, 7.IX.1948. [*4* : 13; cf. *51* : XXXVIIIb]

806 NORTHERN SHORE near new landing, 3.XII.1963.
1; coral sand; growth of *Bontia daphnoides;* sandy leaf decay, moulding timber.

807 NORTHERN SHORE, near new landing, 3.XII.1963.
1½; limestone terrace; scattered shrubs and small trees; in fissures and under stones with little plant decay, below *Bursera bonairensis.*
807a — 25.IX.1968; in fissures and pockets.

808 NORTHWESTERN PART, 3.XII.1963.
4½; limestone terrace; some shrubs and small trees; slabs of limestone with a little plant decay.

942 SALINJA, 16.III.1970.
1½; limestone terrace; scattered shrubs; rock debris, little decay.

Klein Curaçao (Pl. XXXVIII)

200A LIGHTHOUSE, N, 29.VIII.1936. [*2* : 30; *52* : XIIa]

321 EASTERN SHORE, 1.X.1948. [*4* : 13]

322-A LIGHTHOUSE, S, 1.X.1948. [*4* : 13] (cf. Pl. XXXVIIIa)

Curaçao (Fig. 24–26; Pl. XXXVIII–XL, XLIII–XLIV)

201-A SEROE RONDE KLIP, 20.X.1936. [*2* : 30] (Pl. XIa)

202-A SEROE DI BOCA, St. Joris, 7.IX.1936. [*2* : 30–31]
202B —25.II.1970; 20–30; little vegetation.

203 SEROE MAINSJIE, Klein St. Joris, 7.IX.1936. [*2* : 31]

204 OOST-SEINPOST, 9.IX.1936. [*2* : 31]
204A Landhuis Fuik, N, 9.IX.1936. [*2* : 31]
204B Seroe Grandi, Seinpost, 22.XI.1963; 50; diabase; few scattered shrubs and cacti; very little decay.

205 ROOI MANZALIENJA, Tafelberg Santa Barbara, 4.IX.1936. [*2* : 31]
205a —13.IV.1949. [*4* : 14]

206 TAFELBERG SANTA BARBARA, NW, 4.IX.1936. [*2* : 31] (cf. Pl. XXXIXa)

207 NEWPORT, near Cave, Sta Barbara, 2.IX.1936. [*2* : 31]

208/9 NEWPORT, Cave, 2.IX.1936. [*2* : 31, fig. 5]

210 KABRIETENBERG, Quarantaine, 16.X.1936. [*2* : 31]

211 FORT BEEKENBURG, 16.X.1936. [*2* : 31]

212 SCHAARLOO, St. Jago, 26.X.1936. [*2* : 31]

213 SEROE PRETOE, Piscadera, 9.X.1936. [*2* : 31]
213A Seroe Domi, 12.IV.1930. [*2* : 31]

214 EVERTSZBERG, Piscadera, 10.X.1936. [*2* : 33]

215 SEROE SPREIT, Malpays, 23.X.1936. [*2* : 33]

216 HATO, Hofje, 13.X.1936. [*2* : 33]

217 HATO, near Cave, 17.IX.1936. [*2* : 33]

218 HATO, Cave, 21.IX.1936. [*2* : 33, fig. 6]

219-A HATO, Cave, 16.IX.1936. [*2* : 33, fig. 6]

220 HATO, WANDONGO, 6.X.1936. [*2* : 33]
220a —31.XII.1963; 15; large trees of *Hippomane mancinella;* pieces of limestone, leaf decay with goat droppings.

221 GROTE BERG, 22.X.1936. [*2* : 33]

222 KOENOEKOE (Cunucu) ABAO, Midden-Curaçao, 9.XI.1936. [*2* : 33]
222a —20.VIII.1948. [*4* : 16]

223 HERMANOS, 9.XI.1936. [*2* : 33]

224 SEROE KABRITOE (Ceru Cabritu), St.Marie, 9.XI.1936. [*2* : 33]

225 SEROE CABAJÉ, Porto Marie, 9.XI.1936. [*2* : 33] (Pl. XLb)
225a —14.IV.1930. [*2* : 33]
225A —21.XI.1963; 40–55; shrubs with much *Croton flavens* and *Agave;* debris of limestone and fissures with little plant decay.

226 SAN PEDRO, 22.X.1936. [*2* : 33]

227 SEROE DI CUEBA, escarpment near coast, 29.X.1936. [*2* : 35]
227a —30.IV.1930. [*2* : 35]

228 SEROE DI CUEBA, N escarpment, 29.X.1936. [*2* : 35]

229 SEROE BARTOOL, W escarpment, 29.X.1936. [*2* : 35]
229A —20.X.1936. [*2* : 35]

230 ST. SILVESTER, Wacao, 22.XI.1936. [*2* : 35]

231 SEROE TEINTJE, W, 27.X.1936. [*2* : 35]

232 TAFELBERG ST. HYRONIMUS, E, 10.XI.1936. [*2* : 35]

233 ROOI SORSAKA, 8.XI.1936. [*2* : 35]

234 SEROE CHRISTOFFEL (Christoffelberg), top, 7.III.1937. [*2* : 35] (Pl. XLIVa)
234a —24.X.1948. [*4* : 17]
234b —23.XII.1948. [*4* : 17]
234c,A —11.II.1949. [*4* : 17]
234d —12.X.1968; 350; decay of *Clusia.*
234Aa —12.X.1968; 370; top; debris in fissures.

235 SEROE CHRISTOFFEL, NW slope, 10.XI. 1936. [*2* : 35] (cf. Pl. XLIVb)
235A,B —23.XII.1948. [*4* : 17]
235Aa —II.1946. [*4* : 17]
235Ba —12.X.1968; 250; *Bromelia lasiantha.*

236 ROOI SÁNCHEZ, Knip, 11.XI.1936. [*2* : 35; cf. *52* : X]

237 BOCA TABLA, 27.X.1936. [*2* : 35]

238 BOSHI DI WESTPUNT, 27.X.1936. [*2* : 35]

239 WESTPUNT BAAI, 27.X.1936. [*2* : 35]

240-A PLAJA ABAU, Knip, 6.XI.1936. [*2* : 35–36] (Pl. XLIIIa)

241 PLAJA ABAU, 6.XI.1936. [*2* : 36]

242-B SEROE DJERIMI, 6.XI.1936. [*2* :36]

243 ST. KRUIS BAAI, 24.X.1936. [*2* : 36]
243A Seroe Commandant, top, 24.IV.1930. [*2* : 36]
243Aa —26.X.1963; 120; cherts, shrubs, mainly cacti; dead *Cereus.*

244 PLAJA CHIKITOE, S of St. Kruis Bay, 24.X.1936. [*2* : 36]

245-A HOFJE ST. KRUIS (Santa Cruz), 24.X.1936. [*2* : 36] (Pl. XLIIIb)
245a —30.XI.1963; decay of *Mangifera* trees.

323-B HOFJE GROOT ST. JORIS, 9.IV.1949. [*4* : 14]
323Ba —3.I.1949. [*4* : 14]
323Bb —18.I.1949. [*4* : 14]

324 HOFJE GROOT ST. JORIS, 18.I.1949. [*4* : 14]

325-A GROOT ST. JORIS, 3.I.1949. [*4* : 14]
325Aa —18.I.1949. [*4* : 14]
325Ab —9.IV.1949. [*4* : 14]

326 GROOT ST. JORIS, 9.IV.1949. [*4* : 14]

327 HOFJE SANTA BARBARA, 14.VIII.1948. [*4* : 14]
327A Landhuis Sta. Barbara, 10.IV.1948. [*4* : 14]

328 TAFELBERG SANTA BARBARA, N, 10.IV.1949. [*4* : 14] (cf. Pl. XXXIXa)

329-A TAFELBERG S.B., SE, 29.X.1948. [*4* : 14]

330 TAFELBERG S.B., Rooi Loki-Loki, 8.XII.1948. [*4* : 15]

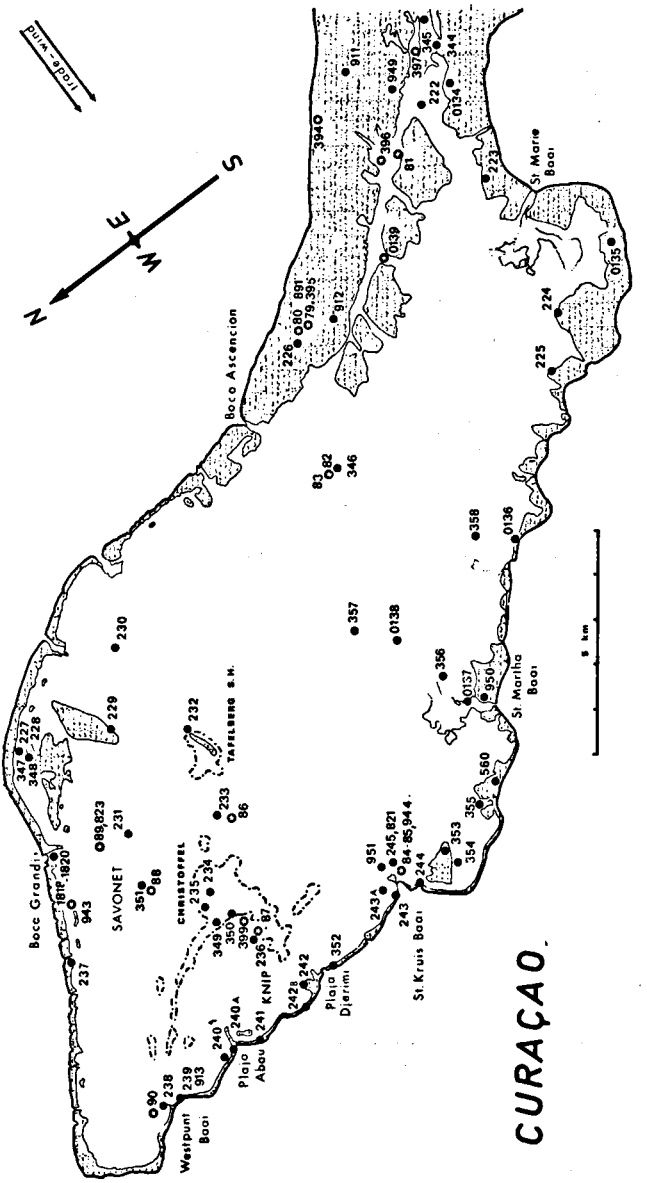


Fig. 24. Western part of CURAÇAO, showing land and fresh-water localities.

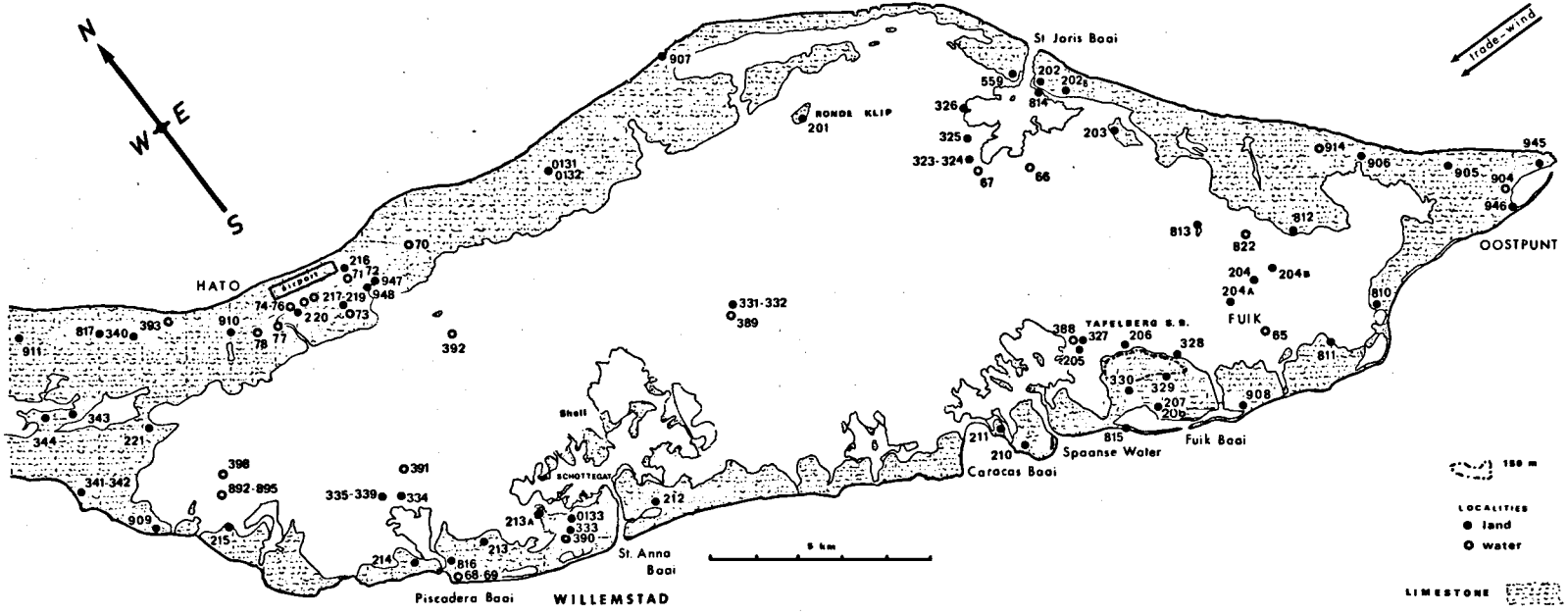


Fig. 25. Eastern part of CURAÇAO, showing land and fresh-water localities.

331 Cas Corá, Agric. Exp.-Sta., 11.XII.1948. [*4* : 15]
331A —14.I.1949. [*4* : 15]
331B —20.I.1949. [*4* : 15]

332 Cas Corá, 20.XI.1949. [*4* :15]

333 Curaçaosch Museum, Mundo Nobo, 22.III.1949. [*4* : 15; cf. *52*: IXb]
333A —25.IV.1949. [*4* : 15]

334 Groot Piscadera, Klein Hofje, 27.I.1949. [*4* : 15, Ia]
334a —10.I.1949. [*4* : 15]

335 Groot Piscadera, 27.I.1949. [*4* : 15]

336 Groot Piscadera, 19.III.1949. [*4* : 15]

337,Aa Groot Piscadera, Hofje, 27.I.1949. [*4* : 15]
337A —28.XII.1948. [*4* : 15]

338 Groot Piscadera, Hofje, 28.XII.1948. [*4* : 16]

339 Groot Piscadera, Hofje, 28.XII.1948. [*4* : 16]
339a-A —27.I.1949. [*4* : 16]

340 Cueba di Ratón, Hato, 26.IX.1948. [*4* : 16]
340a —20.X.1948. [*4* : 16]
340b —1.XII.1948. [*4* : 16]
340c —4.I.1964; 20; dark limestone cave with nursery of *Mormoops*.

341 Bullenbaai, near oil tanks, 22.X.1948. [*4* : 16]

342 Cueba di Chichi, cave of Bullenbaai, 22.X.1948. [*4* : 16]

343 Kleine Berg, 24.VIII.1948. [*4* : 16]

344 Martha Coosje, escarpment, 24.VIII.1948. [*4* : 16]

345 Martha Coosje, near tanki, 24.VIII.1948. [*4* : 16]

346 Dokterstuin, near Pos Europa, 12.II.1949. [*4* : 16]

347 Cave near Cueba Bosá, S. di Cueba, St. Hyronimus, 7.III.1949. [*4* : 17]

348 Cueba Bosá, Seroe di Cueba, Savonet, 7.III.1949. [*4* : 17]
348a-A-B —17.III.1949. [*4* : 17]

349 Seroe Gracia, Knip, 17.VIII.1948. [*4* : 17]
349A Seroe Batata, 23.XII.1948. [*4* : 17]

350 Rooi Cajoeda, near well, Knip, 17.VIII.1948. [*4* : 17]

351 Rooi Beroe, near Pos Sjimarrón, 23.XII.1948. [*4* : 18]

352 Plaja Djerimi, escarpment, 11.XII.1948. [*4* : 18]

353 Seroe Baha So, top, Spaanse Put, 16.II.1949. [*4* : 18]

354 Seroe Baha So, ruins, 16.II.1949. [*4* : 18]

355 Spaanse Put, Hofje, 16.II.1949. [*4* : 18]

356 Groot St. Martha, Hofje, 4.XII.1948. [*4* : 18]

357-A Rooi Magdalena, Patatentuin, 5.I.1949. [*4* : 18]

358 San Juan, pig farm, 18.XII.1948. [*4* : 18]

558 St. Joris Baai, NW beach, 20.II.1955.
½; sandy beach with debris, oil residue.

559 Seroe Stela, top, St. Joris Baai, 20.II.1955.
25–35; limestone; few *Hippomene* trees and shrubs; some leaf decay in fissures.

560 Spaanse Put near Playa Frankie, 27.II.1955.
10; limestone; shrubs with small trees and cacti; under stones and in fissures almost without plant decay.

810 Seroe Patia near Awa Blanco, Fuik, 27.X.1963.
10–30; limestone; some shrubs and small trees; some plant decay, in fissures.

811 Duivelsklip, Fuik, 27.X.1963.
20–40; limestone escarpment; scanty shrubs, cacti; boulders; fissures with goat droppings.

812 Seroe Blanco, Fuik, 22.XI.1963.
60; limestone plateau; *Croton* with *Opuntia*, some *Coccoloba* and *Hippomane;* tree trunks, leaf decay, in fissures.

813 Seroe Pretoe, Fuik, 22.XI.1963.
50; limestone on diabase; scanty *Croton* with *Opuntia*; gravel with some plant decay.

814 St. Joris Baai, near S. di Boca, 22.XI.1963.
½; sandy shore; coarse plant decay cast ashore.

815 Fuik Baai, W wall, 17.XI.1963.
½–1; coral rubble, growth of *Laguncularia*; leaf decay.

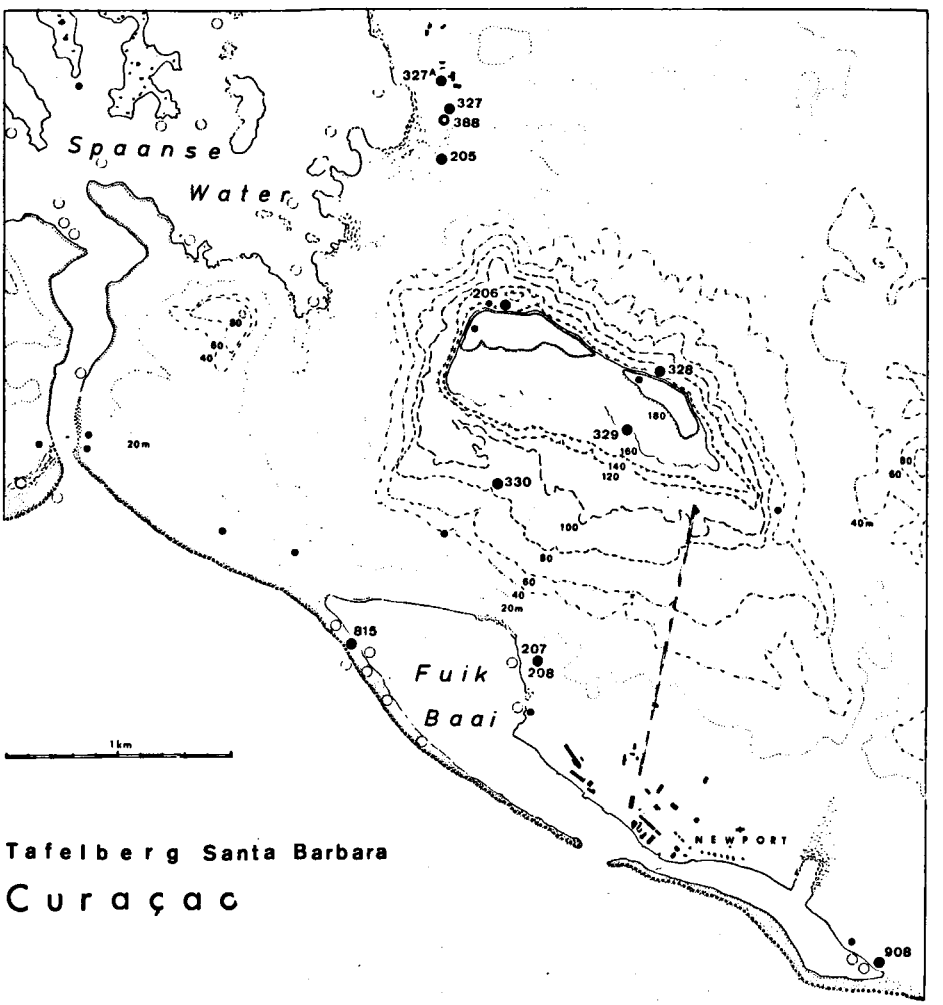


Fig. 26. Tafelberg and surroundings, eastern CURAÇAO, with localities.

816 PISCADERA, N part of Carmabi area, 30.XII.1963.
3–5; limestones; *Croton*-vegetation with cacti; rocks with some decay.

816A — 30.XII.1963; 1½–2; *Hippomane* in gully; plant debris.

817 CUEBA DI JETCHI, Hato, 11.VIII.1962. (L. J. van der Steen coll.)
20; limestone cave with residual soil; bat faeces (dark).

818 BOCA GRANDI, Savonet, E cliff, 19.XI.1963.
5; limestone escarpment; *Guayacum* trees; debris with scanty decay.

819 BOCA GRANDI, Savonet, beach, 19.XI.1963.
½; sandy beach with limestone; decaying *Sagassum*. [cf. *51* : XL]

820 BOCA GRANDI, Savonet, W cliff, 19.XI.1963.
5; limestone escarpment; *Hippomane* trees; boulders with leaf decay.

821 ST. KRUIS, Hofje, 30.XI.1963.
2; cherts; *Tamarindus* with scanty shrubs; debris.

904 AWA DI OOSTPUNT, 21.IX.1968.
¼; sandy beach; decaying *Thalassia*.

905 OOSTPUNT, northcoast, 21.IX.1968.
5; pitted limestone; some low shrubs.

906 KLEIN ST. JORIS, northcoast, 21.IX.1968.
10; limestone; sparse vegetation.

907 PLAYA BOCA CANOA, 15.IX.1968.
¼; sandy shore, decayed *Sargassum*.

908 FUIKBAAI, most eastern shore, 5.X.1968.
1–2; limestone; scanty shrubs; some debris.

909 PESTBAAI, SE Bullenbaai, 9.X.1968. [cf. *51*: LIIb (sic! *not* Westpunt Baai)]
10–20; limestone; shrubs and small trees; boulders, some decay.

910 HATO, W of Airport, 7.XI.1968.
20–30; limestone cliff; thorny shrubs; debris.

910A —7.XI.1968; 10; near base of cliff, muddy after rains.

910Aa —21.II.1970; sparse shrubs; slabs of limestone, some decay.

911 HATO, 7 km SE San Pedro, 7.XI.1968.
20; limestone cliff; some shrubs; debris.

911A —7.XI.1968; 15 m deep overhang; some dry decay, goat droppings.

912 SAN PEDRO, S of spring, 22.X.1968.
30; pitted limestone; shrubs and small trees; debris.

913 WESTPUNT BAAI, 13.IX.1968.
10–20; coastal limestones; some shrubs.

945 AWA DI OOSTPUNT, N shore near light tower, 22.II.1970. (Pl. XXXVIIIb)
2–3; limestone terrace; scanty vegetation in wind and spray.

946 AWA DI OOSTPUNT, westernmost corner, 22.II.1970.
½; sandy mud with some *Avicennia*; decay of *Syringodium, Thalassia* and *Sargassum*, flotsam.

947 SEROE RONDÓ, E of road to Hato Airport, 21.II.1970. (cf. Pl. XXXIXb)
30–45; limestone; scanty shrubs; rock debris with some decay.

948 SEROE BORDO, W of road to Hato, 21.II.1970. (Pl. XXXIXb)
40; limestone escarpment; some shrubs and cacti; some debris.

949 DANIEL, Middle Curaçao, 27.III.1970.
60; limestone; shrubs; some decay, in fissures.

950 CERU DI BOCA, Santa Marta, viewpoint, 20.II.1970.
50; limestone escarpment; scanty shrubs; a little plant debris. in fissures.

951 SANTA CRUZ (St. Kruis), roadside near sugar mill, 27.III.1970.
5; weathered shale; *Cereus, Opuntia, Croton;* plant decay.

0131 NOORDKANT, 1 km W of Landhuis, 26.VIII.1973.
20; limestone; rather dense growth of shrubs and cacti; below pieces of rock and in fissures, some leaf decay.

0132 CUEBA DI NOORDKANT, 4.VIII.1973.
15; dark limestone cave with residual soil.

0132a — 22.VIII.1973; animal remains, bat faeces.

0133 OTRABANDA, Fort Waakzaamheid, 5.VIII.1973.
40; limestone cliff, disturbed; spiny scrub with *Croton*; rock debris with some decay and waste.

0134 MEIBERG, Middle Curaçao, 25.VIII.1973.
85; limestone terrace; shrubs with *Agave*; plant decay, in fissures.

0135 KAAP MARIE, NW, 29.VII.1973.
20; weathered soil with limestone; some shrubs; debris.

0136 PLAYA MANZANILLA, St. Jan, W-side, 29.VII.1973.
25; limestone cliff; shrubs with *Croton, Caesalpinia* and *Opuntia;* among pieces of limestone, mould, in fissures.

0137 SANTA MARTA BAAI, SE peninsula of inner bay, 9.IX.1973.
8; limestone; some shrubs; plant decay, rock debris.

0138 BETWEEN SOTO AND RIO MAGDALENA, 9.IX.1973.
100; non-calcareous rock; scattered shrubs and small trees; rock debris and some decay.

Aruba (Fig. 27; Pl. XLV – XLVI, XLVIII – IL)

246 Rooi Prins, near spring, 9.I.1937. [*2* : 36]
246a — 26.VIII.1949. [*4* : 18]

247-A Boca Prins, dunes, 9.I.1937. [*2* : 36] (cf. Pl. XLVIIIa)
247B —26.VIII.1949. [*4* : 18]

248 Boca Prins, E, 9.I.1937. [*2* : 36] (cf. Pl. XLVIIIa)
248A Fontein, S, 5.VII.1930. [*2* : 37]

249 Quadirikiri, before the cave, 9.II.1937. [*2* : 37]

250 Grot van Quadirikiri, dark cave, 9.II.1937. [*2* : 37, fig. 7]

251-A Grot van Quadirikiri, 9.II.1937. [*2*: 37, fig. 7]
251a — 30.XII.1948. [*4* : 18]
251b — 16.I.1949. [*4* : 19]
251c — 18.V.1949. [*4* : 19]

252-A Vader Piet, SE Fontein, 9.II.1937. [*2* : 37]

253-A Boca Grandi, N of Culebra, 5.I.1937. [*2* : 37]

254 Culebra, near Seroe Colorado, 5.I.1937. [*2* : 37; cf. *51* : LIVb]
254a — 29.IX.1968; 30; limestone; little vegetation; among rock debris.
254A Seroe Colorado (Ceru Corá), 2. V.1955; 50–60; limestone and phosphate; very few scattered small shrubs with *Melocactus*; under stones and in fissures.

255 Rooi Spoki, N of San Nicolás, 6.II.1937. [*2*: 37]

256 Savaneta, W, 5.I.1937. [*2* : 37]

257 Rooi Lamoenchi, 29.XII.1936. [*2* : 37]

258-A Rooi Lamoenchi, E, 29.XII.1936. [*2* : 37]

259 Isla, near R. Lamoenchi, 29.XII.1936. [*2* : 37]

260-A Baranca Alto, near R. Lamoenchi, 29.XII.1936. [*2* : 39]
260B Rooi Taki, 29.XII.1936. [*2* : 39]

261 Spaansch Lagoen, E, 5.I.1937. [*2* : 39; *51* : LV]

262 Spaansch Lagoen, W, 5.I.1937. [*2* : 39; cf. *51* : LV]
262A — 29.XII.1936. [*2* : 39]
262B — 1.I.1949. [*4* : 19]

263 Rooi Francés, 6.I.1937. [*2* : 39]

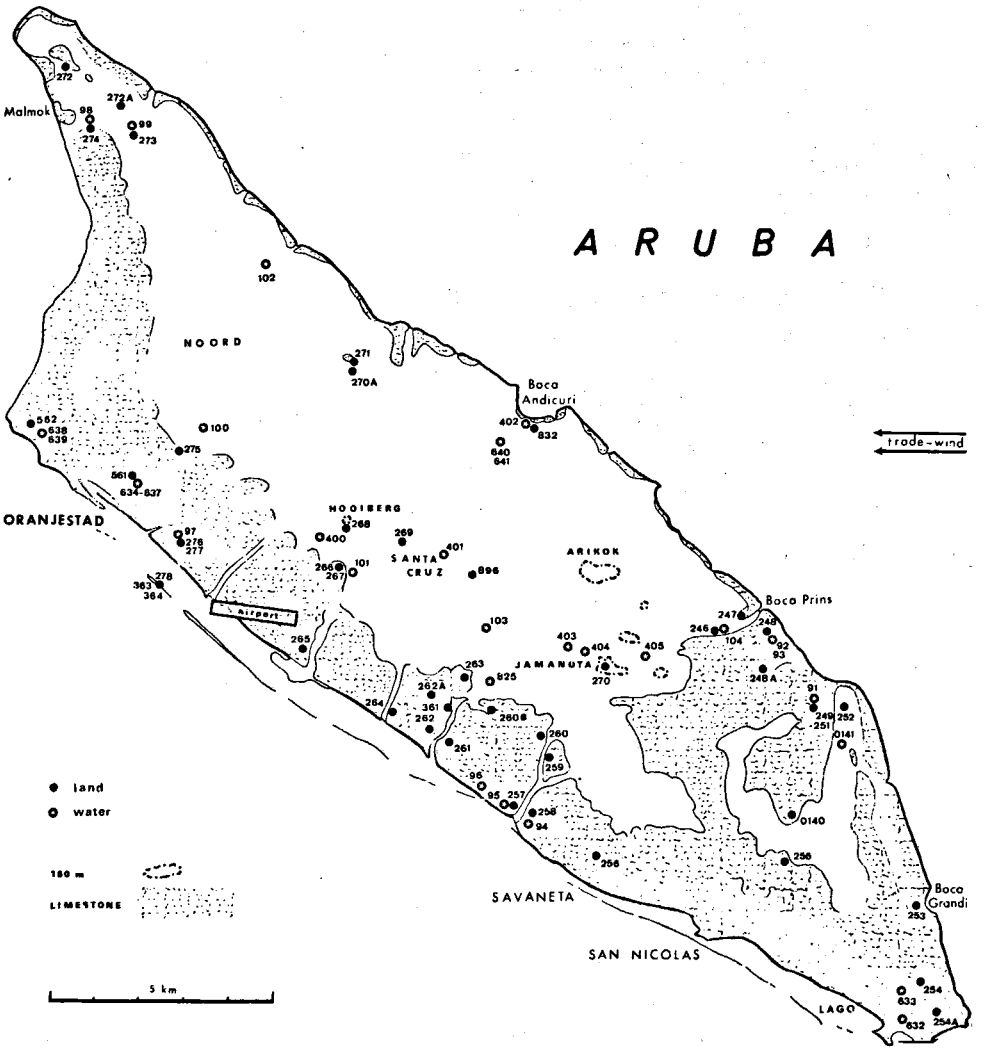


Fig. 27. ARUBA, with station numbers of land and fresh-water localities.

264 ROOI BARCADERA, 5.I.1937. [*2* : 39]

265-A ROOI PERKIETENBOSCH, 5.I.1937. [*2* : 39]

266 SEROE CANASHITO, S. 7.XII.1936. [*2* : 39]

267 SEROE CANASHITO, NE, 7.XII.1937. [*2* : 39]

268-A HOOIBERG, 21.XII.1936. [*2* : 39] (cf. Pl. XLVa)
268B — 5.XII.1936. [*2* : 39]
268C — E slope, 10.VIII.1973; 120; hooibergite, scattered shrubs with cacti and *Agave*; little debris.

269 SANTA CRUZ, 21.XII.1936. [*2* : 40] (cf. Pl. XLVIa)

270 JAMANOTA, top, 3.I.1937. [*2* : 40] (cf. Pl. XLVb)
270A Seroe Cristal, 10.II.1937. [*2* : 40]

271 SEROE PLAT, 10.II.1937. [*2* : 40]

272 HUDISHIBANA, 9.XII.1936. [*2* : 40]
272A Annaboei, 9.XII.1936. [*2* : 40]

273 TIBUSHI, Westpunt, 9.XII.1936. [*2* : 40]

274 WESTPUNT, Hofje, 9.XII.1936. [*2* : 40]

275 SOLITO, 16.XII.1936. [*2* : 40]

276 HEINTJE CROES, Oranjestad, 14.XII.1936. [*2* : 40]

277 MON PLAISIR, Oranjestad, 15.XII.1936. [*2* : 40, cf. IVa]

278 BOEKOETI (Bucuti) reef, 8.II.1937. [*2* : 40, IVb]
278A — 17.I.1949. [*4* : 19]
278B —21.X.1967; coral rubble; shrubs and grasses; some debris.

363 BOEKOETI, 17.I.1949. [*4* : 19]

364 BOEKOETI, 17.I.1949. [*4* : 19]
364a — NW beach, 24.III.1970; beach debris.

561 ORANJESTAD, hennery at Colegio La Salle, 4.V.1955.
8; garden with abandoned hen-house; waste under bricks, behind board.

562 EAGLE PETR. COMP., 11.VIII.1955.
1–3; sink hole in low limestone terrace; scanty shrubs; some leaf decay of *Croton* and *Prosopis*.

832 CAVE OF ANDICURI, 6.VIII.1962. (L. J. van der Steen coll.)

896 SEROE WARA-WARA, 22.X.1967. (Pl. ILa)
70; hooibergite; spiny shrubs and cacti; some plant debris, among rock debris.

0140 CERU BLANCU, N of San Nicolás, 10.VIII.1973.
65; weathered limestone terrace with scanty shrubs; below slabs of limestone and in fissures.

La Goajira (*1*: fig. 3)

285 PUNTA TUCACAS, near Puerto López, 14.I.1937. [*2* : 41]

286 LAGUNA DE TUCACAS, 15.I,1937. [*2* : 41]

287 CASTILLETES, 14.I.1937. [*2* : 41]

288 URIBIA, 14.I.1937. [*2* : 41]

289 CABO DE LA VELA, Ranchería, 22.I.1937. [*2* : 41; cf. *52* : XIIb]

290-A CABO DE LA VELA, península, 22.I.1937. [*2* : 41]

291 EL CARDÓN, N, 11.I.1937. [*2* : 41]

292 RÍO HACHA, NE, 20.I.1937. [*2* : 41]

293 RÍO HACHA, 1 km S, 18.I.1937. [*2* : 42]

294 RÍO HACHA, 2 km S, 18.I.1937. [*2* : 42]

Paraguaná (*1* : fig. 3)

279 CARIRUBANA, Quebrada, 15.II.1937. [*2* : 40]

280 CERRO TRANSVERSO, E of Carirubana, 16.II.1937. [*2* : 41, Ib]

281 SANTA ANA, W, 16.II.1937. [*2* : 41; cf. *1*: VIIIa]

282 SANTA FÉ, E, 18.II.1937. [*2* : 41]

283 MORUY, NE, 18.II.1937. [*2* : 41]

284 CERRO DE MACHURUCA, SE of Cerro de Sta Ana, 16.II.1937. [*2* : 41]

Venezuela (Aragua, D.F., Anzoátegui, Sucre)

121 CABO BLANCO, W of La Guaira, 19.VIII.1936. [*2* : 22]
121A —10.VIII.1948. [*4* : 11]

122 GUANTA, N of Barcelona, 15.VIII.1936. [*2* : 22]

123 PENÍNSULA DE ESMERARDA, W of Carúpano, 10.VI.1936. [*2* : 22]

124 MORRO DE ESMERARDA (island), 10.VI.1936. [*2* : 22]

125 PENINSULA DE PUERTO SANTO, E of Carúpano, 12.VI.1936. [*2* : 22; *1* : 1b]

126 MORRO DE PUERTO SANTO (island), 12.VI.1936 [*2* : 22; cf. *1* : Ib]

127 MORRO DE CHACOPATA, Península de Araya, 27.VI.1936. [*2* : 22]

128 ISLA DE CARIBES, near Chacopata, 26.VI.1936. [*2* : 22]

301-A LA GUAIRA, Quebrada Los Angelitos, 10.VIII.1948. [*4* : 11]

550 CARACAS, El Paraíso, 19.III.1955.
900; garden; leaf decay, mould, waste.

551 S OF RANCHO GRANDE, N of Maracay, 18.III.1955.
600; weathered schists; "sabana seco"; dry leaf decay.

552 S OF RANCHO GRANDE, Quebrada Rancho Chico, 18.III.1955.
800; weathered schists; wet vegetation near Sta. 624.

553 RANCHO GRANDE, Estación Biológico, Parque Nac. Pittier, 18.III.1955.
1200; schists; wet vegetation near Sta. 625.

554 RANCHO GRANDE, grounds of Estación Biológico, 18.III.1955.
1200; weathered rock; old wood, some decay.

555 RANCHO GRANDE, Parque Nac. Pittier, 1½ km E of Estación, 17.III.1955.
1200; schists, "selva nublada"; plant decay.

826 MACUTO, E of La Guaira, 9.I.1964.
1; sandy shore; poor beach vegetation; rubble, decay of *Coccoloba uvifera*.

916 SILLA DE CARACAS, Parque, near Teleférico, 16.XI.1968.
2100; cherts; rain forest; decay.
916A — 16.XI.1968; base of trees.

917 SILLA DE CARACAS, Parque Nacional El Aquila, 16.XI.1968.
2100; metamorphic rock; wooded slope with bamboo.

918 SILLA DE CARACAS, Teleférico, 16.XI.1968.
2100; roadside; ferns and mosses in fissures.

919 CARACAS, Jardin Botánico, 10.XI.1968.
900; rocky slope; debris and decay.

Suriname (abridged)

368 CHARLESBURG, N of Paramaribo, 2.VIII.1948. [*4* : 19]

369 ZANDERIJ, 40 km S of Paramaribo, 3.VIII.1948. [*4* : 20]

370 ZANDERIJ, 42 km S of Paramaribo, 3.VIII.1948. [*4* : 20]

563 REPUBLIEK, SW of Paramaribo, 3.IX.1955; decaying wood in forest.

564 KABEL, 31.VIII.1955; grassy roadside, among debris.

565 KABEL, 2.IX.1955; mould and leaf decay in forest.

566 KABEL, 2.IX.1955; decaying palm tree in pool.

567 ALOESOEBANJA RAPIDS near Kabel, 1.IX.1955; decaying *Mourera*.

827 PURMEREND, N of Paramaribo, 1.III.1964; roadside near river.

828 KABEL, SE, 26.II.1964; mosses and decay in forest.

FRESH AND BRACKISH - WATER HABITATS

SYNOPSIS

As most localities were visited only once, the classification is rather conjectural.

A few habitats having a more or less marine or saltpond character (such as (792A), *861, 0102*), and 382, 628, 629, *677*, 933, 934) are included, together with some localities which, because of their connection with the sea (*515, 530,* 541, 542, 681, *737,* 900, 0129) or for other reasons (*769, 862*) show a high salinity. – Cf. *Stud. 4*, p. 39.

[COWARDIN'S *Classification* (1979) proved to be inappropriate in classifying the diversity of often temporary watertracks, pools, puddles, cisterns and troughs, or subterranean waters, described in this paper. According to this *Classification* most of the "Land-locked bays or almost enclosed lagoons" as described in *Studies 51* (1977) belong to the Estuarine System, while the "Saltlakes, saltponds or saltflats" are Lacustrine or Palustrine.]

Station numbers of
Leeward Group : 8, 9, ... 372, 374, ... 943, 944, 0129, 0130, 0139, 0141.
Windward Group : *500, 501, ... 851, 852, 854, ... 871, 055, 056, ... 0102, 0120.*
Trinidad, S. American mainland : (1), (2), ... (105), (106), ... (796), (829), ... (921).
Florida Keys to Puerto Rico: (*546*), (*247*), ... (*708*), ... (*983*), (*984*), (*005*), ... (*030*), (*042*).

FLOWING WATER, OFTEN WITH QUIET POOLS

CONNECTED WITH LIMESTONE

at spring
(overflowing pool)
never dry 72, 80, *728*, 395
probably never dry 76, 77, *740*
probably ocasionally dry ... 385, 386, *545*, *756A*
(brooklet)
never dry 48, 48D, 71, 79, 395, *869*
near spring
(overflowing pool)
probably occasionally dry .. 79B, *756*, *869A*
(water track)
probably occasionally dry .. 76B, 77A, 80A, 48E, *740A*
(brooklet)
probably never dry 74, 76A, (648), (649), *785*, *055*
probably occasionally dry .. 48A, 79A, 93A

at some distance from spring
(overflowing pool)
probably never dry *752*
probably occasionally dry .. 72A
usually dry for a few months 71A
(brooklet)
probably occasionally dry .. *656, 783*
far from spring
(rivulet)
probably never dry ..... (2), *870*

NO CONNECTION WITH LIMESTONE

at spring
(overflowing pool)
never dry 102, *862*
probably never dry *521, 522, 741, 743A*
probably occasionally dry .. 86
(water track)
never dry 104
probably never dry 44A
near spring
(overflowing pool)
never dry 44
(water track)
probably occasionally dry .. 87, *742*
(brooklet)
never dry ..... (*025*)
probably never dry 104B, *839*
probably occasionally dry .. 88, 102A, 104A
(rivulet)
never dry *502*
at some distance of spring
(water track)
probably occasionally dry .. 48E, (651)
(brooklet)
never dry 17, 19, (624), *847*
probably never dry 15, 22, 103, *657, 770, 784*
probably occasionally dry .. 27, 103B, *683, 687, 743*
probably often dry 102B, 104C
(rivulet)
never dry 16, 21, 26, (625), (626)
far from spring
(brooklet)
probably occasionally dry .. 23, *660, 768*, (*027*)
(rivulet)
never dry ..... (116), *503, 663, 858, 860*
probably never dry *501*, (647), *854*
(river)
never dry ..... (1), (115), (642), (644), (645), (652), *769*, (792), (831), (*030*)

STAGNANT OR APPARENTLY STAGNANT WATER

CONNECTED WITH LIMESTONE OR CORAL SAND

cavern water

never dry 47, 55, 56, 57, 92, 94, 95, 375, 380, 394, 402, *543*, 632, 633, (650), (655), *669*, *671*, 889, 900, (006), (009), 0130

probably never dry 40, 384, 393, (*983*)

probably occasionally dry .. 59, 73, *672*

connected with cavern water

never dry 61, 93, *542*, (*547*), 883, (*005*), (*007*), (*008*)

probably never dry 58, 387, *536*, *541*, *750*, *753*, 882, 886, 887, *099*

probably occasionally dry .. 49, 53, (112), 376, 382A, 383, 629, *681*, 904

usually dry for a few months 54, 379, 882A, 884, 885, 901, 902

with restricted underground circulation

never dry 75, (108), *554*, *656A*, *674*, *727*, *751*, *754*, *871*

probably never dry 9, 36, 39, *530*, *546*, *680*

probably occasionally dry .. 52, 60, 63, 64, 387, 385, 386, *666*, *668*, *767*, *0102*

usually dry for a few months 376A, (*549*), 641, *667*, 888, 0129

us. dry for several months .. 43, 52, 628, 630

with almost no underground circulation

never dry ..... (406), (407), (*548*), *755*, (792A), *861*, (*981*)

probably never dry 6, 81, (105), (107), (109), (*694*), *729*, *749*, *755A*, *782*, (*979*), (*980*)

probably occasionally dry .. 70, 96, (106), *665*, (*867*), (*978*), (*024*)

usually dry for a few months 48B-C, 395A, *528*, 627, *670*, (*693*), *866*, *868*

us. dry for several months .. 46, 52A, 62, 68, 69, 90, 91, 377, 378, 381, 382, *526A*, *527*, 638, 639, *673*, *675*, *676*, *739*, *771*, 805, 809, 889A, 914, (*982*), (*984*), 0139

NO CONNECTION WITH LIMESTONE OR CORAL SAND

part of flowing water system after rains

(not dammed)

never dry *500*, (708)

probably never dry 38, (117), (119), *665*, (*042*)

probably occasionally dry .. (113), 399, *518*, *531*, *532*, *534*, (*705*), *851*, *860A*, 898, 933

usually dry for a few months 88a-b, 405, 641, *661*, *712*

us. dry for several months .. (371-A), *523*, 640, 825, 934

(dammed)

probably never dry 401, (*026*)

DESCRIPTION

(Fresh and Brackish-water Habitats)

Including some isolated pools which may become salty when drying out, and cavern waters which may have a rather high salinity.

Excluding all descriptions already published in *Studies 1* (1940), *2* (1940), and *4* (1953); references to volumes, pages and plates in brackets.

A *capital letter* after the station number represents a difference in habitat; a *small letter* refers to samples collected at a later date at the same locations. Water indicated by station *numbers in italics* may be considered as ground water; an *exclamation mark* denotes flowing water. Several data may be considered as highly arbitrary.

Station number. Locality, date. [Reference to pages and plates]
Water body (approx. length, width and depth in m); *movement, permanency and origin* (if not stagnant, permanent and natural); *soil* (in neighbourhood); *bottom* and *vegetation*; turbidity and colour of *water* (if not clear and colourless), salinity (in mg Cl′/l).

Key Biscayne

693 TRENCH S OF CRANDON PARK, 2.IX.1963.
40 × 1 × ½; temporary, dug; sandy swamp; muddy decay of *Cocos* and other trees; brown, 4160.

694 POND NEAR HARBOR DRIVE, 9.IX.1963.
25 × 10 × 1½; permanent?, dug; sandy, along asphalt-covered road; soft mud, crowded with phanerogams, *Chara*; 60.

South Bimini

549 FOUNTAIN OF YOUTH, 20.VIII.1949. [*4*: 38, 35]

New Providence

547 PALL'S WATERWORKS, 23.VIII.1949; 475. [*4*: 38, 55]

548 ARCHBOLDS' POND, Nassau, 23.VIII.1949; 17. [*4*: 38, 55]

Grand Cayman (Fig. 4; Pl. I)

978 POOL ½ KM W OF BOTABANO, 18.V.1973.
$2 \times 2 \times \frac{1}{4}$; semi-permanent, dug in old quarry; marly limestone; very muddy, crowded with algae and rushes; somewhat polluted by cattle; 75.

979 POOLS AT WATER GROUND, 18.V.1973. [*52* : IVa]
?$40 \times 30 \times 2$; pools and ditches dug in depression of weathered limestone flat; muddy, grass borders, *Chara* (fishes, snails, beetles, etc.); turbid, yellowish brown, 390.

980 POOL W OF WALKERS ROAD, ½ km E of Jackson Pt., 10. VI. 1973.
$5 \times 5 \times ?2$; cow well with remnants of stone walls in depression of pasture-like limestone area; muddy borders with grasses and *Typha*, rather many algae (several beetles); slightly turbid, 85.

981 DITCH 1 KM N OF RED BAY, S of Air Strip, 21.V.1973. (Pl. Ib)
$?200 \times 2 \times 1\frac{1}{2}$; drainage of swampy limestone area; grassy borders with *Typha, Chara* and algae (fishes) ; 50.

982 POOL 3.5 KM NE OF BREAKERS, 27.V.1973.
$1 \times 1 \times \frac{1}{4}$; depression in weathered limestone flat, possibly dug and semipermanent in semi-cultivated area; muddy, crowded with grasses and rushes (snails and beetles); 370.

983 POOL NEAR NORTH EAST POINT, 25.V.1973.
$1\frac{1}{2} \times 1 \times 1$; well with cavern water in limestone terrace; debris of limestone, small algae (few fishes and snails); brownish, 1560.

984 CISTERN OF BOWSE LAND, 2 km E of Rum Pt, 27.V.1973.
$2 \times 2 \times 1/10$; some water in isolated cemented cistern of 5 m in diameter; some mud with few small algae (beetles and mosquito larvae); 2290.

Cayman Brac (Fig. 6)

005 WELL OF LAZARY, Spot Bay W, 30.V.1973.
$1 \times 1 \times ?1\frac{1}{2}$; $1\frac{1}{2}$ m below surface, artificial well in use for domestic purposes; limestone; very few small algae (some insects); 100.

006 PUMP WELL OF LAZARY, Spot Bay W, 80 m from The Bluff, 30.V.1973.
$\frac{1}{2} \times \frac{1}{2} \times 1\frac{1}{2}$; 3 m below surface, in limestone from which water is pumped to cattle on The Bluff; 110.

007 DEEP WELL OF LONELY HILL, Spot Bay E, 29.V.1973.
$1\frac{1}{2} \times 1\frac{1}{2} \times ?5$; 1 m below surface, artificial well for domestic and agricultural purposes; limestone; few small algae (insects); 100.

008 GOOD WELL OF LONELY HILL, 15 m from 007, 29.V.1973.
$1\frac{1}{2} \times 1\frac{1}{2} \times ?2$; 1 m below surface, tidal movements?, in use for domestic purposes; weathered limestone; sandy bottom (insects); 120.

009 PUMP WELL OF LONELY HILL, Spot Bay E, 29.V.1973.
$1 \times \frac{3}{4} \times 1\frac{1}{2}$; $1\frac{1}{2}$ m below surface, natural well in limestone from which water is pumped to The Bluff; debris with few small algae (snails and shrimps); 110.

Jamaica

024! FLOOD GATE OF THE FLASHES, near Great Saltpond, 8.V.1973.
$> 50 \times 3 \times 1$; drainage of swampy area; roadside with algae and phanerogams (few planorbid snails, fishes and insects, *Uca*) ; 340.

024 — 30 m from 024, 8.V.1973; crowded with phanerogams; 430.

025! WAGWATER RIVULET at Langley, N of Kingston (600 m), 13.V.1973.
$> 20 \times 2 \times \frac{1}{4}$; fast flowing with pools; cherts; some plant decay (insects and shrimps); 90.

026 MONA RESERVOIR, E of Kingston (220 m), 6.V.1973.
$> 200 \times 100 \times ?2$; asphalted borders, without vegetation (fishes, snails, shrimps); water piped from mountain area, 10.

027 DITCH OF U.W.I. CAMPUS, Mona (200 m), 6.V.1973.
$> 20 \times 1 \times \frac{1}{4}$; overflow of Reservoir with several pools; clayish soil; muddy, no vegetation, plant debris; 40.

028 POOL OF U.W.I. CAMPUS at Mona, adjacent to Chapel (200 m), 6.V.1973.
$3 \times 2 \times 1$; garden pool; plant decay ; 30.

029 POOL OF U.W.I. CAMPUS at Mona, near Chapel, 13.V.1973.
$3 \times 3 \times 1$; cemented pool; muddy bottom with phanerogams; ? 20.

030 RIVULET E OF YALLAHS, at fork to Easington, 6.V.1973.
$> 10 \times 5 \times 1\frac{1}{2}$; stagnant part of rivulet; very muddy; algae and plant decay (fishes, shrimps); turbid and somewhat polluted, 140.

Puerto Rico (Fig. 7; Pl. IV)

705 DITCH NEAR LAGUNA RINCON, 3 km S of Las Arenas, 18.IX.1963.
$> 20 \times 3 \times 1$; semi-permanent, dug; swampy, soft mud; phanerogams and algae; slightly brownish, 1400.

706 LAGUNA CARTAGENA, Valle de Lajas, 18.IX.1963.
$> 100 \times ?50 \times 1$; part of large lake; semi-permanent, inundated; semi-cultivated weathered soil; muddy, phanerogams; 30.

707 TANQUE PAPAYO, E of La Parguera, 19.IX.1963.
$50 \times 20 \times 1$; temporary, dammed; rock detritus without limestone; very muddy without vegetation; turbid, greyish, 10.

708 Río Guánica, floodgate in drainage of Laguna, 15.IX.1963. (Pl. IVb)
> 100 × 30 × 3 ; recent construction in clayish soil, almost no vegetation; turbid, greyish, 650.

042 Ditch near Vivero Catalina, SW Luquillo (abt 60 m), 1.V.1973.
> 20 × 2 × ½; semi-cultivated grassy area; sand and rock debris (tadpoles, shrimps, planorbids, beetles); 20.

St. Thomas

687! Brookman River near bridge, N of Mariendal, 17.VI.1955.
> 10 × 2 × ¼, largest pool in rivulet; semi-permanent; detritus with decay of *Annona* leaves, algae; 510.

St. Croix

682 Pool at Upper Bethlehem, Fed. Agr. Exp. Sta., 12.VI.1955.
10 × 5 × ½; artificial, semi-permanent; limestone; muddy plant decay, crowded with waterlilies; slimy and brown, 590.

683! Canaän Stream , 10.VI.1955.
> 5 × 2 × ½, largest pool; semi-permanent; volcanic rock; some muddy decay in pools, no vegetation; 290.

684 Canaän trough, 10.VI.1955.
3 × 1 × ½; cemented trough, used as aquarium; muddy plant decay, crowded with *Eichhornia, Cabomba*; 270.

684A — adjacent to 684, 10.VI.1955; cemented, used for drainage; some decay, almost without vegetation; 320.

685 Canaän puddle, 10.VI.1955.
1 × 1 × ¼ ; iron open air aquarium; some mud, *Cabomba*; 300.

Dog Island

546 Dog Island Well near northcoast, 17.VI.1949; 1410. [*4* : 38, 55]

Anguilla (Fig. 8; Pl. VII-VIII)

543 Forest Point Saltwell, 18.VI.1949; 4070. [*4* : 38, 55] (Pl. VIIb)

544 Bedney's Spring near Mead's (Maze) Bay, 18.VI.1949; 1505. [*4* : 38, 55]

545 Spring of Mead's Bay near saltpond, 18.VI.1949; 4960. [*4* : 38, 55]

055! BADCOX POND, W of Gauls Pond, 1.VII.1973. (Pl. VIII)
Seepage from limestone near saltflat; much *Spirogyra*; 2700.

055A! — 300 m from Sta. 055; 1.VII.1973; seepage; abt. 2500.

056 THE FOUNTAIN, near Shoal Bay, 1st pool, 1.VII.1973.
3 × 2 × 1 ; cavern water in dark cave; limestone debris, some floe-calcite (crustaceans); 780.

056A —2nd pool, 2.VII.1973; 790.

St. Martin (Fig. 9–10; Pl. X – XII)

528 POND OF POINT BLANCHE, 17.V.1949; 7800. [*4* : 38, 53]

528a — 5.VI.1955; 100 × 80 × 2/3; temporary, grassy mudflat with *Chara* (*Uca*); 3800.

528b — 27.IX.1963; 90 × 70 × ½; same ; 5170.

528A Little Pond of Point Blanche, 5.VI.1955; 30 × 20 × ½; temporary, connected with 528 after rains; very muddy, no vegetation (*Uca*); turbid, 2750.

528B Cattle Pool of Point Blanche, 5.VI.1955; 10 × 8 × 3/4; temporary, merging into 528 after rains; muddy rock detritus with grasses and decay of *Hippomane*, no vegetation; turbid, brownish, 2050.

528Ba — 25.VII.1955; 8 × 6 × ½; as behore (*Uca*); 3200.

529 OLD BATTERY CISTERN, SE of Philipsburg, 18.V.1949; 105. [*4* : 38, 53]

529a — 17.III.1937; rock and plant debris; fresh.

529b — 3.VI.1955; 10 × 2 × 1; polluted, no vegetation; brownish, 170.

529c — 25.VII.1955; dense growth of duckweed; 200.

530 CRAB HOLE CISTERN, E of Philipsburg, 18.V.1949 ; 9920. [*4* : 38, 53]

530a — 2.VI.1955; 15 × 5 × ½; cemented cistern with dense growth of *Chara*, some *Ruppia* (*Uca*) (destroyed by road building Sep. 1962); 5200.

531 PUDDLE IN ROLANDUS CANAL Upstreet, 25.V.1949; ?1500. [*4* : 53]

532 PUDDLE IN RAMBEAU VALLEY N of Marigot, 20.V.1949; 380. [*4* : 38, 53]

533 YARD WELL OF HEYLIGERS, Colombier Valley, 20.V.1949; 160. [*4* : 38, 53]

534 PUDDLE IN COLOMBIER VALLEY, head of ravine, 20.V.1949; 265. [*4* : 38, 53]

537 SLOB OF ST. PETER, Cul-de-Sac, 24.V.1949 (dry 16.X.1963); 35. [*4* : 38, 54] (Pl.XIa)

538 DOCTOR'S WELL, Rockland, Cul-de-Sac, 24.V.1949; 355. [*4* : 38, 54] (cf. Pl. Xa)

538a — 29.VI.1955; 2½ × 2½ × 1; 2 m below pasture-like surface; stone wall; rock debris, crowded with algae; 430.

538b — 16.X.1963; same ; 320.

538c — 24.VI.1973; about the same, disturbed; 540.

538A — trough, 24.V.1949; ?400. [*4* : 54]

538Aa — 16.X.1963; 5 × 1 × 1/5; cemented trough, cleaned, coated with algae; ? 350.

539 PUDDLE NEAR DOCTOR'S WELL, 24.V.1949; 635. [*4* : 38, 54] (cf. Pl.Xa)

539a — 29.VI.1955; 15 × 3 × ½; temporary, deepened; pasture-like area; very muddy, no vegetation (dried up 16.X.1963); 710.

540 WATER IN BROMELIAD at Meschrine (Corner) Hill, 27.V.1949. [*4* : 54]

541 DEVILS HOLE CAVE POOL, 4.VIII.1949; abt. 13,000. [*4* : 54]

541a — 26.VII.1955; 1½ × 1 × 1/3; semi-permanent, in connection with cavern water, tidal movements; limestone; very muddy, without vegetation (shady); 8100.

541b — 14.X.1963; 2 × 1½ × ½; same; 9540.

541c — 2.VIII.1967; 13,290.

541d — 27.VI.1973; 1½ × 1 × 1/50; 13,230.

542 DEVILS HOLE SWAMP, 4.VIII.1949; 13,800. [*4* : 38, 54] (Pl. XIb)

542a — 26.VII.1955; ?25 × 15 × ?1½; sink-hole with tidal movements; limestone and mud, with *Avicennia*, blue-algae, and *Batophora*; yellowish, 10,900.

542b — 14.X.1963; same, but water slightly turbid and greenish, 9920.

542c — 2.VIII.1967; same, turbid (Corixids and mosquito larvae); abt. 10,000.

542d — 28.VI.1973; 35 × 30 × ?1½; greater part of *Avicennia* removed, floating algae (mosquito larvae, Notonectids and Corixids); 10,950. [*52* : IVb]

678 FISH NURSERY trough, Upstreet, Philipsburg, 7.VI.1955. [*4*: Va]
10 × 1 × 1; cemented trough near Great Saltpond (= Sta. 1134), semi-permanent; crowded with *Chara* (no fishes); 5850.

678a — 28.IX.1963; only some *Chara*; 16, 310.

679 BLOOMINGDALE CISTERN, NE shore of Great Saltpond, 7.VI.1955. (pl. XIIa)
8 × 4 × 1; cemented cistern, semi-permanent; sandy loam and rock debris; muddy, crowded with *Chara;* yellowish brown, 1890.

679a — 29.II.1963; 8 × 3½ × ½; same (*Potamopyrgus*, fishes); 2170.

679b — 1.VIII.1967; 6 × 2½ × 1/10; no *Chara* (fishes, dead snails); 12, 810.

679c — 21.VI.1973; almost no water, black mud covered by *Chara*; 110.

680 LITTLE BAY POND, E shore, 4.VI.1955.
800 × 500 × ?2; behind wall of sandy rock debris; sandy mud with some *Ruppia* (*Uca*); 2100.

680A — S shore, 4.VI.1955; growth of *Ruppia*; 2050.

681 DEVILS HOLE CAVE PUDDLE, 15 m from 541, 26.VII.1955.
1/7 × 1/7 × 1/10; possibly in connection with cavern water and subjected to some tidal movements, 5 m from entrance of NE gallery; marly limestone with very little detritus (dusk, *Metaniphargus*); 8100.

681a — 14.X.1963; 1/5 × 1/5 × 1/7, as above; 10,370.

681b — 2.VIII.1967; 1/5 × 1/5 × 1/7, as above (but without amphipods); abt. 10,000.

681c — 27.VI.1973; some soft mud only.

712 OYSTER POND WELL (25 m), 13.X.1963.
?2 × 1 × ½ ; temporary pool from fissures in volcanic tuffs and porphyrite; rock debris, mud and leaf decay of *Pisonia*; yellowish, ?20.

093 SLOB OF NORMAN, E of Grand' Case, 22.VI.1973.
15 × 15 × ½; temporary, dug in depression of cattle area; very muddy without vegetation (fishes and insects); turbid and brownish, 40.

094 SLOB OF BELVEDÈRE (45 m), 20.VII.1973. [*52*: Va]
15 × 15 × 1 ; temporary, in depression of cattle area; very muddy without vegetation (insects, Cladocera and Ostracoda); turbid, brownish, 80.

095 SPRING GARDEN HENNERY POOL, Prince's Quarter, 20.VI.1973.
3 × 4 × ½; temporary, dug in weathered diorite, crowded with duckweed; polluted by chicken faeces and goat droppings, 430 .

096 ROLANDUS CANAL POOL at The Hope, 21.VI.1973. (Pl. XIIb)
20 × 4 × 1 ; semi-permanent in weathered soil; very muddy, with grasses and *Chara* (fish, snails, insects); turbid, yellowish brown, polluted by cattle, 330.

097 SLOB OF WELGELEGEN, W of Philipsburg, 22.VII.1973. [*52* : Vb]
15 × 12 × ½; semi-permanent cattle pond; very muddy and crowded with duckweed; polluted, brownish, 210.

098 ROCK POOL OF MORNES ROUGES, Terres Basses (25 m), 23.VI.1973.
2 × 1½ × 1 ; water hole in volcanic rock; very little debris, some duckweed; a little brownish, 70.

099 PUITS DES TERRES BASSES, 16.VII.1973.
1¼ × 1¼ × ½, 2 m below surface; old well dug in limestone; some plant decay; 2020.

099A Cistern near Puits, 16.VII.1973; 2½ × 2½ × 1/10; cemented, temporary; polluted by Mancheneel leaves, bad smelling, 2900.

0102 ILET PINEL, NE St.Martin, 15.VII.1973.
2 × 2 × ½ ; semi-permanent pool in sandy beach; sheets of algae; polyhaline.

Tintamarre (Flat Island) (Fig. 9)

526 GREAT WELL (Flat Island Well), 20.VI.1949; 5670. [*4* : 38, 52]
526a — 15.VII.1973; 2 × 2 × 1; 4½ m below surface; mould; 3770.
256A — trough, 20.VI.1949; abt.? 4000. [*4* : 52]

0104 SMALL CISTERN not far from White Bay, 15.VII.1973.
4 × 2 × ?2 ; cemented trough with rainwater from roof of abandoned shed; almost no algae, partly covered (abundant copepods and water striders); 60.

La Fourche (Fourchu, Five Island)

525 FIVE ISLAND WELL, 2.VI.1949; 1450.[*4* : 38, 52]

Saint-Barthélemy (St.Barts) (Fig. 11)

523 PUDDLE AT LORIENT, 3.VI.1949; 3500. [*4* : 38, 52]

524 MARE DES PALMIERS, 3.VI.1949; 3540. [*4* : 38, 52]

Saba (Fig. 12)

516 SPRING OF SPRING BAY, 28.VII.1949; 1410. [*4* : 38, 51]

517 WELL OF SPRING BAY, 28.VII.1949; 160. [*4* : 38, 51]

518 UPPER MOUNTAIN WATER HOLE, 25.VII.1949; 35. [*4* : 38, 51]

519 WATER IN BROMELIAD at Upper Rendez-Vous, 26.VII.1949; 140. [*4* : 38, 51]

520 BOOBY HILL CISTERN, 25.VII.1949: 17. [*4* : 38, 52]

521! SPRING OF FORT BAY, 21.VII.1949; abt.? 2500. [*4* : 52]
521a — 6.X.1963; $>\frac{1}{2} \times 3/4 \times 1/5$; overflowing cemented basin (abt. 20 l/h), permanent?, andesitic rock; debris with soft mud, no vegetation (dusky); 200.
521b! — 7.VII.1973; same ; 450.

522 HOT SPRING NEAR LAND POINT, W of Fort Bay, 15.III.1950; 2100. [*4*: 38, 52]

Sint Eustatius (Statia) (Fig. 13; Pl. XVIII)

504 WATER IN BROMELIAD on The Quill, 12.VII.1949; 280. [*4* : 37, 50]

505 MANAHEGA CISTERN, Downtown, 7.VII.1949; 2300. (dry 8.X.1963) [*4* : 37, 50, IVa]

506 MANAHEGA WELL, near 505, 7.VII.1949; 1665. [*4*: 38, 50, IVa]
506A — 8.X.1963; as above; 1000.
506b — 10.VII.1973; as before ; 1200.

507 TWIN CISTERNS, Downtown, 7.VII.1949; 515 (dry 8.X.1963). (*4* : 38, 50]

508 NEW WELL near Gin House, Downtown, 7.VII.1949; 17. [*4* : 38, 50] (Pl. XVIIIa)
508a — 8.X.1963; as before; abt. 30. (10. VII.1973 : 40)

509 GIN HOUSE CISTERN, 7.VII.1949; 35. [*4* : 38, 50]

510 SAMSON WELL, Downtown, 10.VII.1949; 2100 (8.X.1963: 1050; 10.VII.1973: 1870) [*4* : 38, 50]

511 King's Well, Downtown, 13.VII.1949; 3450. [4 : 38, 50]
511a — 8.X.1963; as above; 2750.
511A — trough, 13.VII.1949; abt. ? 4000. [*4* : 51]

512 GOLDEN ROCK, bowl, 8.VII.1949 ; 105.(from well, 55 m deep, 9.X.1963: 360) [4 : 38, 51]

513 CISTERN NEAR ZEELANDIA, 8.VII.1949; 35. (dry 10.X.1963) [4 : 38, 51]

514 WELL OF ZEELANDIA, 8.VII.1949; 2690. (10.X.1963; 2165) [*4* : 38, 51. IVb]
514a — 12.VII.1973; 2 × 2 × ½; 5 m below surface; brownish, 1270

515 SPOUTS WELL of Zeelandia, near Concordia Bay, 8.VII.1949; 7940. [*4* : 38, 51]
515a — 10.X.1963 ; as before; 8910.
515b — 12.VII.1973; 2 × 2 × ?2 ; no vegetation; 1080
515A — trough, 10.X.1963; 8 × 1 × ¼; cemented, temporary; muddy debris with algae; abt. ? 10,000.

716 SCHOTSENHOEK WELL trough, 9.X.1963.
10 × ½ × ¼; from 35 m deep well in cemented trough; andesitic rock; masonry with algae ; 1205.

717 TROUGH OF CONCORDIA WELL, 9.X.1963.
10 × ¾ × 1/10; cemented cistern, often dry; flakes of algae; 645.

718 LYNCH'S WELL, Turtle Bay, 10.X.1963.
1 × 1 × 1, artificial, 2 m deep; andesitic rock; debris and sand, often stirred; 1440.

719 QUARTER WELL, Company Bay, 10.X.1963.
1½ × 1½ × 1, artificial, 7 m deep; andesitic rock; debris and sand; often stirred; 1540.

0120 CONCORDIA BAY WELL, 11.VII.1975.
2 × 2 × ½, 5 m below surface; andesitic rock; clear, 4060.

Saint Christopher (St. Kitts) (Pl. XX)

503 WINGFIELD RIVER, 30.VI.1949; 35. [*4* : 37, 49]

677 FRIGATE BAY CATTLE POND, 20.VII.1955. (Pl. XXa)
20 × 20 × ½; temporary?, dug; sandy rock detritus; mud, few small algae; turbid and brownish, polluted by cattle; 10,900
677A Cattle Pond Well, 20.VII.1955; ½ × ½; permanent?, about 30 m from 677; rock detritus; mud in concrete tube; turbid, 1450.

Nevis (Pl. XX)

500 NELSON'S SPRING, St. Thomas, 28.VI.1949; 88. [*4* : 37, 49, Ib]

501 JONES' RIVER, Newcastle, 28.VI.1949; 230. [*4* : 37, 49] (Pl. XXb)

502 HOT SPRING OF BATH, 28.VI.1949; 70. [*4* : 37, 49]

Barbuda (Fig. 14; Pl. XXI–XXII)

666 MARTELLO TOWER WELL, 8.VII.1955.
$2 \times 2 \times \frac{1}{2}$; permanent?, dug; sand and limestone; sandy, rock debris; some small algae; somewhat brownish, 1040.

667 BULL HOLE, SE Barbuda, 9.VII.1955. (Pl. XXIIa)
$20 \times 20 \times \frac{1}{3}$; sheet of water in depression of limestone flat, semi-permanent; debris and mud, *Najas* and *Chara*, some *Ruppia*, algae (*Rivulus*); turbid and brownisch, 2200.

668 BULL HOLE SPRING, 40 m S of 667, 8.VII.1955.
Seepage, muddy place of abt. 2 m diam.; 780.

669 PYCRUST WELL, Highlands, 6.VII.1955.
$2 \times 2 \times \frac{3}{5}$; cavern water abt. 10 m below surface of limestone plateau; pieces of limestone, soft mud, few pieces of wood, thin coating of algae (*Metaniphargus*); 27°C, 1700.

670 GHAUD ROAD WATER HOLE, Highlands, 6.VII.1955.
$\frac{1}{3} \times \frac{1}{3} \times \frac{1}{2}$; temporary, 1 m deep hole in limestone; turbid and brownish (*Branchipus*); 240.

671 DARK CAVE, Highlands, 6.VII.1955.
$> 30 \times 4 \times 2$; about 20 m below surface of limestone plateau, most distant basin in about 150 m long cave; very little soft mud (dark); 23°C, 930.

672 BRYANT'S CAVE, Highlands, 6.VII.1955.
$25 \times 20 \times \frac{1}{3}$; semi-permanent pool in sink-hole, 20 m deep, possibly in contact with cavern water; soft mud with flockulous algae; polluted by birds; 25°C, 1180.

673 TWO-FEET BAY WATER HOLE, 50 m from shore, 10.VII.1955.
$\frac{1}{3} \times \frac{1}{3} \times \frac{1}{2}$; temporary, in limestone terrace; muddy, without vegetation; turbid and brownish, 1020.

674 LOW POND, N of Warden's House, Codrington Village, 5.VII.1955. (Pl. XXIb)
$20 \times 15 \times 1$; permanent?, very low part of limestone flat near lagoon; very muddy, crowded with *Chara*, Cyperaceae and algae (*Rivulus*); somewhat polluted by cows, 2650.

674a — 21.VII.1967; 20 × 15 × ½; partly encircled by low wall and concrete border at swampy lagoonside; tufts of *Chara*, some *Ruppia*, cattle pond visited by donkeys and goats; abt. ?4000.

675 VILLAGE POOL near Warden's House, 5.VII.1955. [*52* : VIa]
2 × 2 × ½; temporary, hole in low part of limestone flat; very muddy and polluted by cattle and man, blue algae; turbid and brownish, 170.

675a — 24.VII.1967; dried up mud, moistened by recent rains; fresh.

676 VILLAGE POOL, very near 675, 5.VII.1955.
4 × 2 × ½; similar muddy pool out of a group of five; 140.

Antigua

664 POND AT AGRICULTURAL EXPERIMENT STATION, 15.VII.1955.
25 × 15 × ?½; semi-permanent, dug; loamy soil; very muddy with a few small algae only; turbid and brownish, 135.

665 WEIR'S POND, NE of Gunthorpes, 14.VII.1955.
20 × 10 × ½; permanent?, 20 m from mangrove-lined creek; sugar fields, beach deposits; very muddy, greater part crowded with *Chara*, some *Ruppia*, Cyperaceae and grasses; rather turbid and brownish, 5830.

Montserrat

838 ELBERTON ESTATE POND, NW of Plymouth (70 m), 20.VII.1967.
20 × 20 × ¼; weathered, andesitic soil; very muddy cattle pond with grassy borders; polluted, turbid, brownish, fresh.

839! BELHAM RIVER at bridge, N of Plymouth (50 m), 20.VII.1967.
> 50 × 2 × ½; flowing streamlet near source with almost stagnant pools; algae (shrimps, snails, bugs); fresh.

840 AGRICULTURAL EXPERIMENT GARDENS POOL, 20.VII.1967.
1½ × 1½ × ¾; iron sugar-bowl with some mud; no vegetation, dirty (dead planorbid snails); brownish, tapwater.

841 AGRICULTURAL EXPERIMENT GARDENS BASIN, 20.VII.1967.
4 × 4 × 1; cemented basin crowded with waterlilies and *Eichhornia* (planorbids, waterstriders); somewhat yellowish-green, tapwater.

Guadeloupe (Pl. XXIV)

727! SOURCE DE LA BAIE NORD-OUEST, W of Moule, 29.I.1964.
> 2½ × 1 × ½; permanent pool in connection with swamp with *Avicennia* and *Rhizophora* at about 20 m distance; sandy mud, grasses and ferns; 375.

728! SOURCE DE LA RAVINE D'AUDOUIN, near Moule, 28.I.1964. (Pl. XXIVa)
> 1½ × 1½ × ½; spring of rivulet with adjacent *Pterocarpus*-lined pools, formerly piped to sugar factory; loamy soil, semi-cultivated; sand and mud, algae, few phanerogams (*Bufo, Neritina*, eel and pipe-fish); 150.

729 POND DE BOISVIN, S of Moule, 29.I.1964.
?50 × 15 × 1½; permanent?, part of rivulet in rainy season; semi-cultivated, sugar cane; muddy, swampy borders, mainly grasses; 20.

La Désirade (Fig. 15; Pl. XXXIII)

737 PUITS DES GALETS, 15 m from W point shore, 25.I.1964.
1 × ½ × 1/10; temporary, cemented trough near 5 m deep well; crowded with decay of *Hippomane mancinella*, without algae; brown, 8200.

738 WATER IN BROMELIADS, Le Calvert, N of Grande-Anse (200 m), 24.I.1964.
1/20 × 1/20 × 1/100, several; temporary; greenish brown, rainwater.

739 WATER HOLE OF CYBÈLE (60 m), 24.I.1964. (cf. Pl. XXIIIa)
1/10 × 1/10 × 1/20; temporary, hole in limestone, crowded with leaf decay of *Coccoloba uvifera;* rainwater.

740! SOURCE DE CYBÈLE (90 m), 24.I.1964.
?½ × 1½ × ½; natural spring, made more accessible; limestone and andesite; soft greyish mud, no algae; turbid (because of groundwork), 225.

740A! — (80 m), 24.I.1964; ?1 × 1 × 1/5; about 30 m from 740; muddy, leaf decay.

741! GRANDE SOURCE, Baie Mahault, 24.I.1964. (Pl. XXIIIb)
½ × ½ × ½; semi-natural spring with concrete trough 3 × ¾ × ½; permanent; semi-cultivated loamy soil; rock debris, concrete and mud; trough crowded with algae, and overflow; often stirred, 495.

742 PETITE SOURCE, Baie Mahault, Pont Neuf, 24.I.1964.
> 2 × 1/5 × 1/10; part of possibly permanent water track; semi-cultivated loamy soil, clayish mud, few algae; somewhat polluted by animals, 585.

743! SOURCE DU LÉPROSERIE (20 m), 24.I.1964.
> 1 × 1 × 1/100; probably permanent spring, excavated, slowly flowing (abt. ¾ m³/h); loamy soil, semi-cultivated; muddy (groundwork), without vegetation; 490.

743A! — pool (3 m), 24.I.1964; 2 × 1 × ½; semi-permanent, dug a few hundreds of metres from 743; muddy with algae; ?500.

Marie – Galante (Fig. 16; Pl. XXIV-XXVI)

749 MARE LAGON, Les Galeries, Capesterre, 2.II.1964.
80 × 60 × 1½; permanent and natural?; semi-cultivated beach deposits near shore; muddy, with *Chara, Nitella, Eichhornia* and waterlilies; somewhat greenish, ?100–300.

750 MARE NOIRE, near Étang Noir, 1.II.1964. (Pl. XXVIa)
50 × 50 × 1½; permanent? and natural in sink-hole; semi-cultivated limestone; muddy, crowded with *Chara, Nitella,* waterlilies, grasses and Cyperaceae; 12.

751 RIVIÈRE DU VIEUX FORT, Embouchure, 31.I.1964. (Pl. XXVa)
> 100 × 50 × 2; mouth of rivulet dammed by sandy bar; sand and soft mud, algae, *Ruppia* and *Rhizophora* (mussels, *Spongilla*); 4930.

752! RIVIÈRE DU VIEUX FORT, VANGOUT, road crossing, 31.I.1964.
> 10 × 1½ × ½; in swampy area some 50 m wide; limestone debris; muddy, crowded with grasses, Cyperaceae, *Chara,* waterlilies, and a few *Acrostichum*; 1165.

753 MARE MÉDECINIÉ, Meynard, near Grosse Pointe, 31.I.1964. (Pl. XXVb)
30 × 20 × 1; semi-permanent in sink-hole; limestone debris; muddy, crowded with *Chara,* some waterlilies; greyish, 90.

754 MARE DU MOULIN de Gran-Pierre, 1.II.1964.
30 × 20 × 1; semi-permanent in sink-hole; cultivated limestone; muddy, crowded with *Chara* and *Nitella,* grasses and Cyperaceae; 17.

755 MANGLES DE FOLLE ANSE, S of Saint-Louis, 31.I.1964. (Pl. XXIVb)
Open water in swamp forest of several km², about ¾ m deep; *Pterocarpus officinale,* almost no algae; 245.

755A Marais de Folle Anse, 31.I.1964; swamp of several ha connected with 755; very muddy, crowded with *Chara,* fields of *Eichhornia,* some *Acrostichum*; 330.

756! RIVIÈRE DE SAINT-LOUIS, Les Sources, 1.II.1964.
> 2 × ½ × 1, semi-permanent pool in water track; clayish soil, meadow; muddy, some *Chara,* near *Pterocarpus*; 57.

756A — 1.II.1964; 5 × 2 × ½, 100 m upstream 756; very muddy with some *Chara;* abt. ?50.

Îles des Saintes

759 TERRE-DE-HAUT, MARE BASSE, 6.II.1964.
18 × 18 × ½; temporary?, dug; andesite detritus, semi-cultivated; very muddy, algae with *Chara;* greenish, polluted by cattle, 60.

760 TERRE-DE-HAUT. MARE HAUTE (40 m), 6.II.1964.
15 × 15 × ½; semi-permament, dug; andesite detritus. meadow-like; muddy, considerable growth of algae and waterlilies; slightly polluted by cattle, 70.

Dominica (Pl. XXII)

846 BOTANICAL GARDENS POOL, Rousseau, 14.VII.1967.
$5 \times 2\frac{1}{2} \times 1$; cemented basin with *Victoria regia* (planorbid snails, waterstriders); tapwater, 90.

847! PORTSMOUTH RIVER at bridge, 15.VII.1967. (Pl. XXIIb)
$> 50 \times 3 \times \frac{1}{2}$; slowly flowing streamlet, almost without pools; very few small algae (fishes, shrimps, snails, waterstriders); 80.

848 RUPERT CANAL, NW Portsmouth, 15.VII.1967.
$> 50 \times 2 \times 1$; ditch separating Prince Rupert Point from main island; swampy beach deposits, grasses; 1850.

Martinique (Fig. 17)

767 FOSSÉ DU BAIE DE TARTANE, Caravelle Peninsula, 9.II.1964.
$> 100 \times 2 \times \frac{1}{2}$; ditch behind sand bar, semi-permanent?; beach deposits; very muddy with algae; greyish, 1000.

768! RIVIÈRE MONSIEUR, N of Fort-de-France, 9.II.1964.
$> 5 \times 2 \times \frac{1}{2}$; semi-permanent pool in rapidly flowing streamlet; andesite; very few algae; 17.

769! RIVIÈRE SALÉE, Petit Bourg, at sugar factory, 10.II.1964.
$> 100 \times 15 \times 2$, very slowly flowing river; semi-cultivated clayish soil; muddy, bordered by grasses, few algae; polluted by factory, 6825.

770! RUISSEAU DE LA PAGERIE, Trois-Îlets, near ruins of mill, 10.II.1964.
$> 5 \times 4 \times \frac{1}{2}$; largest pool in rather rapidly flowing streamlet, semi-permanent; andesite, semi-cultivated; rocky with very few small algae; 210.

771 ISLET HARDY. WATERHOLE near landing, W shore, 11.II.1964.
$1/5 \times 1/5 \times 1/5$; temporary, puddle in limestone; turbid, yellowish green, 1945.

851! RIVIÈRE OMAN, 2 km N of Anse des Trois Rivières, 12.VII.1967.
$> 20 \times 2 \times \frac{1}{4}$; pool in almost stagnant rivulet; pasture-like area; very muddy (crabs, shrimps and waterstriders); turbid, 2130.

852 RIVIÈRE SALÉE, southern ditch, 12.VII.1967.
$> 20 \times 2 \times \frac{1}{2}$; almost stagnant; semi-cultivated area (fishes); turbid, abt. ?1500.

Saint Lucia

854! D'ORANGE RIVER, S of Gros Islet, 11.VII.1967.
$> 10 \times 5 \times 1/5$ and smaller in flowing rivulet; andesitic rock, planted with

mango and other trees; rocky pools with a little plant decay (shrimps and waterstriders); 70.

Saint Vincent (Pl. XXVI)

858! GREATHEAD RIVER, S Kingston, 10.VII.1967. (Pl. XXVIb)
$>20 \times 10 \times \frac{1}{2}$; pools in rather rapidly flowing rivulet; andesite; almost no algae (fishes, shrimps, waterstriders); 30.

Barbados (Fig. 18; Pl. XXVII – XXIX)

781 LONG POND, near Lakes Beach, Belleplaine, 17.II.1964.
$>100 \times 50 \times \frac{1}{2}$; semi-permanent water sheet connected with large pond behind sand bar; lagoon deposits covered by grasses; rather slimy from blue algae, somewhat turbid and greyish, 1370.

782 SEDGE POND, W of Belleplaine (200 m), 17.II.1964. (Pl. XXVIIa)
$100 \times 60 \times 2$; disturbed by drainage works, semi-cultivated limestone area; muddy, with *Chara*, grasses and sedges, decaying banana trees (*Macrobrachium*); 65.

783! BAWDEN'S RIVER, Swann Factory, at bridge, 17.II.1964. (Pl. XXVIIIa)
$>100 \times \frac{1}{2} \times 1/10$; rapidly flowing, semi-permanent streamlet; sugar field; muddy sand and limestone debris; no vegetation (*Macrobrachium*); somewhat turbid, 62.

784! JOE'S RIVER, at Frizers, W of Bathsheba (120 m), 16.II.1964. (Pl. XXVIIIb)
$>10 \times 1 \times 1/10$; semi-permanent?, rather rapidly flowing streamlet with pools as deep as $\frac{1}{2}$ m behind small dams; sugar field; sand and mud, considerable growth of algae (shrimps); 87.

784A! — 12.VI.1962, (Louise J. van der Steen); probably same place.

785! COLE CAVE'S RIVER, S of Welchman Hall, 21.II.1964.
$>100 \times \frac{1}{2} \times \frac{1}{4}$; rapidly flowing streamlet with pools, abt. 200 m from entrance of dark limestone cave; very little soft mud (crustaceans); 290.

787 BELLAIR'S POOL at Guest House, Holetown, 21.II.1964.
$5 \times 4 \times \frac{1}{3}$; cemented pool constructed 2 years ago; some decay, few algae, waterlily; turbid and yellowish, 28.

788 RONALD TREE'S POOL, N of Bellair's, Holetown, 21.II.1964.
$5 \times 4 \times 1$; cemented basin in garden; crowded with waterlilies, *Nelumbo*, *Chara* and algae; 640.

866 WASHY POND of Venice, SE Merricks, St. Philip, 6.VII.1967.
$100 \times 25 \times 1$; semi-permanent; weathered limestone with clayish soil; very muddy, crowded with phanerogams, some *Chara* (many *Bufo marinus*); turbid; 310.

867 COLE'S PASTURE POND at mill, St. Philip, 6.VII.1967. (Pl. XXIXa)
$30 \times 30 \times \frac{1}{2}$; semi-permanent; clayish soil on limestone; phanerogams and algae; 140.

868 COLE'S PASTURE POND, 20 m from 867, 200 m from shore, 6.VII.1967. (cf. Pl. XXIXa)
$80 \times 30 \times \frac{1}{2}$; temporary sheet of water on clayish soil; *Alisma*, some *Chara*; 150.

869! WILTSHIRE'S SPRING, Marley Vale, St. Philip, 100 m from shore, 6.VII.1967. (Pl. XXIXb)
$> 10 \times \frac{1}{4} \times 1/20$; rapidly flowing from limestone debris; some small algae (amphipods and shrimps); 210.

869A! — pool, 6.VII.1967; $5 \times 1 \times \frac{1}{4}$, connected with spring; slightly excavated for washing purposes (fishes, shrimps, insects); somewhat greenish, and turbid, 210.

870! CONSET RIVER, near road, St. John (30 m), 7.VII.1967.
$> 100 \times 1 \times \frac{1}{2}$; rapidly flowing with quiet pools; cultivated area; limestone debris, some plant decay (shrimps, amphipods, crabs); somewhat turbid and greyish, 90.

871 CONSET RIVER at Bay, 7.VII.1967.
$> 20 \times 10 \times ?1$; mouth of river with swampy borders, floating algae, grasses and sedges (fishes, shrimps); eurihaline habitat, 150.

Grenada (Fig. 19)

659 WELL OF CALLISTE, Point Salines, 23.I.1955.
$3 \times 3 \times 1$; semi-permanent; andesitic rock, semi-cultivated; muddy cattle pond in part covered by duckweed; 255.

659A — 8.VII.1967; concrete cistern 3×3 with narrow opening, water about $1\frac{1}{2}$ m deep; coating of algae only; 350.

660! CORINTH RIVER, La Sagesse Great River (80 m), 25.I.1955.
$> 50 \times 1 \times \frac{1}{4}$; rapidly flowing with pools between falls; andesite; rock and concrete; no distinct algae (fish, crabs and shrimps); 125.

661 CORINTH ESTATE pools (80 m), 25.I.1955.
$1\frac{1}{2} \times \frac{1}{2} \times 1/5$; largest temporary pool of rainwater; ditch in cocoa-plantation; muddy without vegetation; turbid, greyish brown, polluted by cattle, fresh.

662 GRAND ÉTANG at jetty (500 m), 24.I.1955.
$500 \times 300 \times > 73?$; volcanic rock; muddy borders with grasses, sedges and few waterlilies; slightly turbid; 23°C, 110.

663! GRAND ÉTANG River, near 662, at bridge (?480 m), 24.I.1955.
$> 5 \times 2 \times 1\frac{1}{2}$; pool in rivulet below fall of about 2 m; no vegetation; 120.

860! IRWINS RIVER, SE Sauteurs, 9.VII.1967.
>30 × 10 × ½; rapidly flowing rivulet with pools; volcanic rock debris; gravel with some mud and plant decay (fishes, shrimps, crabs, snails, waterstriders); 180.

860A — pool, 9.VII.1967; 2 × 1 × ¼; algae; abt. 200.

861 LEVERA POND near beach, at bridge, 9.VII.1967.
?50 × 10 × ?2; drainage canal of mangrove swamp; recently dug; muddy sand near *Rhizophora*, some decay of *Thalassia*; 13,100.

862 MINERAL SPRINGS near River Sallee, 2 km NNW Lake Antoine (30 m?), 9.VII.1967.
?1 × 1 × ?2; largest spring with narrow opening of abt. ½ m diam. with overflow; sinter deposits surrounded by shrubs; water in part covered by film of sulfur bacteria (few insect larvae, bugs and beetles only); yellowish brown, bubbling, 6930.

Tobago

656! LAMBEAU RIVER at Stockfarm bridge, 15.I.1955.
>100 × 2 × ¼; rapidly flowing with quiet pools; volcanic rock, semi-cultivated; rock debris with mud, considerable growth of algae, some leaf decay (*Rivulus*); 27°C, 170.

656A — near shore, 15.I.1955.
>50 × 20 × 1½, stagnant part of rivulet behind sandy bar 40 m from shore; very muddy, roots (*Uca*); turbid, 34°C, 1600.

657! FRENCHMAN'S RIVER near Speyside (200 m), 18.I.1955.
>2 × ¼ × 1/10; rapidly flowing rivulet with pools, semi-permanent?; volcanic rock; very small algae; 165.

658 LITTLE TOBAGO. CISTERN (50 m), 18.I.1955.
½ × ½ × 1/50; temporary, cemented cistern; some leaf decay; brownish, 225.

Trinidad (Fig. 20)

116 RIVER NEAR FOUR ROADS, 7.V.1936; 30. [*2* : 20; *4* : 37]

117 POOL BETWEEN FOUR ROADS AND TETERON BAY, 7.V.1936; 40. [*2* : 20; *4* : 37]

648! TAMANA BAT CAVE water track (230 m), 9.I.1955.
?40 × ¼ × 1/20; rapidly flowing near spring (about 500 l/h); limestone; rock debris, sinter deposits, bat faeces, no vegetation (dusk); 24°C, about 100.

649! ARIPO CREEK, Aripo River system (700 m), 30.I.1955.
?¼ × 1/10 × 1/20; pool in rapidly flowing water track, semi-permanent?; well-wooded limestone; hepatics, sinter; 23°C, 110.

650 ARIPO CAVE pools (800 m), 30.I.1955.
$1 \times \frac{1}{2} \times \frac{1}{3}$; two pools in limestone cave 200 from entrance (dark); 20°C, 105.

651! NORTH COAST ROAD RIVULET near La Vache Bay (200 m), 29.I.1955.
?$1 \times 5 \times 1/10$, semi-permanent, rapidly flowing; metamorphic rocks; shrubs, ferns and grasses with rock debris; abt. 100.

652! ST. JOSEPH RIVER, near Bamboo Grove Fish Exp. Sta., 29.I.1955.
$> 20 \times 3 \times \frac{1}{4}$, quiet part in rather rapidly flowing river; cultivated clayish soil; muddy, almost without vegetation; turbid, 140.

653 BAMBOO GROVE Fish Experiment Station, Control Pond, 29.I.1955.
$80 \times 30 \times 1$; unstocked fish pond, sometimes cleaned; clayish soil; muddy with floating algae; turbid, slightly brownish, 26–28°C, 135.

654 BAMBOO GROVE Fish Exp. Sta., experiment tank, 29.I.1955.
$2 \times 1 \times \frac{2}{3}$; concrete tank; algae, *Eichhornia* and some *Utricularia*; fresh.

655 GASPARO GRANDE. GASPAREE CAVE, 11.I.1955.
$> 20 \times 20 \times 3$–7; cavern water in limestone cave with tidal movements; rock, mud, mould, no algae (dark; improverished marine fauna); 11,460.

792! NARIVA RIVER, at bridge, behind bar of Cocos Beach, 17.I.1964.
$> 100 \times 30 \times 3$; drainage of Nariva Swamp, almost stagnant, permanent; muddy with *Rhizophora*, on dead branches abt. 2 m deep with small algae (athecate hydroids); 2000.

792A — at mouth, S of Cocos Beach, 17.I.1964; ?$100 \times 10 \times 1\frac{1}{2}$; tidal movements; muddy sand, on *Rhiz.*; eurihaline habitat.

793 ICACOS SWAMP, 1 km from S coast, S of Los Gallos Point, 16.I.1964.
Pools of muddy swamp with Cyperaceae, grasses and *Acrostichum*; brownish, abt. ?6000.

794 ICACOS SWAMP, $2\frac{1}{2}$ km from S coast, 16.I.1964.
$> 20 \times 1 \times \frac{1}{2}$; ditch in muddy swamp with grasses, Cyperaceae and *Ruppia*, treated with oil for mosquito control; 4100.

795 POINT FORTIN MAINROAD SWAMP, 16.I.1964.
$> 50 \times 20 \times \frac{1}{2}$; semi-permanent pool in well-wooded area with lots of plant decay; 13.

796 PITCH LAKE pool, 16.I.1964.
$> 5 \times 2 \times \frac{1}{2}$, semi-permanent in asphalt; blackish mud with grasses and very few algae; brownish, 130.

Los Testigos

29 MORRO DE LA IGUANA. POZO DEL PUERTO, 14.VI.1936; 790. [*1* : 28; *2* : 5]

30 MORRO DE LA IGUANA, POZO DEL MORRO, 14.VI.1936; 460. [*1* : 28; *2* : 5]

31 TAMARINDO. POZO DEL PUERTO REAL, 15.VI.1936; 95. [*1* : 28; *2* : 5]

32 TAMARINDO. POZA INGLÉS, 15.VI.1936; 30. [*1* : 28; *2* : 5]

33 TAMARINDO. PUDDLE ON MORRO GRANDE (200 m), 16.VI.1936; 30. [*1* : 28; *2* : 5]

34 TAMARINDO. PUDDLE ON MORRO GRANDE (200 m), 16.VI.1936; 15. [*1* : 28; *2* : 5]

Margarita (Fig. 21)

10 POZA DE LA LAGUNA DULCE, Macanao, 20.V.1936; 550. [*1* : 28; *2* : 3]

11 ALJIBE DE LA LAGUNA DULCE, Macanao, 20.V.1936; 55. [*1* : 28; *2* : 3]

12 POZA BARANCA, Manglillo, Macanao, 20.V.1936; 120. [*1* : 28; *2* : 3; *52* : VIb]

13 ESTANQUE LATO, Boca del Río, Macanao, 20.V.1936; 70. [*1* : 28; *2* : 3]

14 ALJIBE DE DIEGO AGUILERA, San Antonio, 13.VII.1936; 1850. [*1* : 28; *2* : 2, 21]

15 MANANTIAL DE GÜIRI, San Antonio, 13.VII.1936; 80. [*1* : 28; *2* : 3, 21]

16! MANANTIAL DE LAS AGUAS SALADAS, San Juan, 11.VIII.1936; 4400. [*1* : 28; *2* : 3, 21]

17! TOMA DE AGUA DEL ENCAÑADO, San Juan, 13.VII.1936; 270. [*1* : 28; *2* : 4, 21]

18 LAGUNA HONDA, SE Juan Griego, 16.V.1936; 150. [*1* : 28, *2* : 4]

19! TOMA DE AGUA DE TACARIGUA, 11.VIII.1936; 80. [*1* : 28; *2* : 4, 21]

20 ALJIBE DEL RÍO DE LA FUENTE, N of La Asunción, 11.V.1936; 110. [*1* : 28; *2* : 4]

21! TOMA DE AGUA DE LA ASUNCIÓN, 6.VII.1936; 50. [*1* : 28; *2* : 4, 21]

22! RÍO ASUNCIÓN, W of La Asunción, 3.VII.1936; 120. [*1* : 28; *2* : 4]

23! RÍO ASUNCIÓN, Puente de La Asunción, 11.V.1936; 390 [*1* : 28; *2* : 4]

24 POZA AL SUR DE LOS ROBLES, 27.V.1936; 85. [*1* : 28; *2* : 4]

25 WATER IN BROMELIADS, El Piache, 10.VII.1936. [*2* : 4]

26! TOMA DE AGUA DEL VALLE, 4.VII.1936; 60. [*1* : 29; *2* : 4, 21]

27! CASA DE AGUA DEL VALLE, 4.VII.1936; 60?. [*2* : 5]

28 PEILA DEL ACUADUCTO DEL CERRITO, E La Ascunción; 17.V.1936; 55. [*1* : 28; *2* : 5]

Coche

8 POZA DE LA REPRESA, El Guamache, 25.VI.1936; 930. [*1* : 28; *2* : 3]

Cubagua

9 POZO DE LA RANCHERÍA, NW Cubagua, 21.V.1936; 1550. [*1* : 28; *2* : 3]

Blanquilla

35 POZO DE VALUCHU, 21.VII.1936; 1450. [*1* : 28; *2* : 5]

36 POZO DE LA PLAYA DEL JAQUE, 22.VII.1936; 1650. [*1* : 28; *2* : 6]

37 POZO DE LA CASA, Cocotería del Jaque, 22.VII.1936; 840. [*1* : 28; *2* : 6]

38 POZA DE AGUADA, N of El Jaque, 22.VII.1936; 970. [*1* : 28; *2* : 6; *52* : VIIa]

Orchila

39 HUESPÉN. POZO GRANDE, W Huespén, 24.VII.1936; 1340. [*1* : 28; *2* : 6]

40 HUESPÉN. POZO CHIQUITO, W Huespén, 24.VII.1936; 190. [*1* : 28; *2* : 6]

Los Roques (Pl. XXX)

41 GRAN ROQUE. POZO DE LA VACA, 25.VII.1936; 2100. [*1* : 28; *2* : 6]

42 GRAN ROQUE. POZO DE LA CABECERA, 26.VII.1936; 3650 [*1* : 28, *2* : 6] (Pl. XXXb)

43 CAYO DE AGUA. PUDDLE, 26.VII.1936; 1350. [*1* : 28; *2* : 6]

Bonaire (Fig. 22–23; Pl. XXXI – XXXVI)

44 POS BRONSWINKEL, Nat. Park Washington, 27.III.1937; 530. [*1* : 28; *2* : 6, 21] (Pl. XXXIIIa)

44a — 31.V.1930; abt. 600. [*2* : 7]
44b — 23.VIII.1955; crowded with duckweed and grasses; 560.
44c — 20.IX.1967; 550.
44d — 26.IX.1968; 520.
44e — 18.III.1970; overflowing; crowded with sedges and algae; 530.
44f — 16.VIII.1973; not overflowing; covered with duckweed; 430.
44A! — Bron, 27.III.1937; at spring; ?500. [*2* : 7]
44Aa! — 23.VIII.1955; 20 m from 44, percolating from below big boulders; sand and mud, some algae; ?500.
44Ab! — 20.IX.1967; ?500.
44Ac! — 18.III.1970; very little water from below big boulder; no algae; 460.
44Ad! — 19.III.1970; 510.
44Ae — 16.VIII.1973; 420.
44B! — gutter of overflow, 23.VII.1955; 5 × 1/5 × 1/100; rock debris and mud; ?560.
44Ba! — 20.IX.1967; ?550.
44Bb! — 19.III.1970; 580.
44C — sheet of water from overflow, 19.III.1970; 600.

45 Dos Pos, 27.III.1937; 450. [*1* : 28; *2* : 7] (cf. Pl. XXXVb)
45A — trough, 26.X.1968; 2½ × 1 × ⅓; coating of algae; turbid, polluted, 590.
45Aa — concrete trough, 3.III.1970; overflow from pumped well, much in use, muddy bottom (beetles); 450.

46 Tanki Onima, 13.XI.1936; 40. [*1* : 28, IVb; *2* : 7, 21]
46a — 23.V.1930; abt. ?400. [*2* : 7]

47 Pos Letín, near Boca Onima, 13. XI.1936; 350. [*1* : 28; *2* : 7] (Pl. XXXIVa)
47a — 29.V.1930; abt. ?400. [*2* : 7]
47b — 19.IX.1948; ? 1790. [*4* : 33, 40]
47c — 7.IV.1955; ¾ × ¾ × ½; turbid, frequently stirred, 2800.
47d — 22.IX.1967: ½ × ½ × 1/10; turbid pool with carrion in shade of 5½ m deep fissure; 28°C, 4200.
47e — 26.X.1968; bad-smelling blackish mud; 4280.
47f — 3.III.1970; ½ × ½ × ½; clear, 3900.
47g — 16.VIII.1973; ½ × ½ × ½; sandy mud with limestone debris; 4640.

48! Fontein, near spring, 13.XI.1936; 350 [*1* : 28; *2* : 8, 21] (Pl. XXXIV-XXXV)
48a! — 30.III.1937; 360. [*1* : 28; *2* : 8]
48b! — 21.V.1930; abt. 400. [*2* : 8]
48c! — 11.IX.1948; 425. [*4* : 33,40]
48d! — 26.II.1949; 370. [*4* : 33,40]
48e! — 23.VIII.1955; same, abt. 1000 l/h; 28½°C, 460.
48f! — 7.XII.1963; only a little mud on bottom of gutter, little water; 395.
48g! — 8.IX.1967; part of gutter near spring, 20 × 20 cm, est. at 900 l/h; muddy leaf decay in shade, a few algae; 28½°C, 400.
48h! — 26.X.1968; very little water; 480.
48i! — 8.III.1970; 400.
48j! — 7.VIII.1973; 390.
48A! — cemented gutter feeding cisterns, 11.IX.1948; ?425. [*4* : 40]

48Aa! — 8.IX.1967; crowded with roots and algae; ?400.
48Ab! — 8.III.1970; coating of algae; ?400.
48Ac — 17.VIII.1973; in part stagnant, much slimy algae; abt. 450.
48B — Bak di Fontein, open cemented cistern, 11.IX.1948. [*4* : 40]
48ba — 26.II.1949; abt. 500. [*4* : 40]
48Bb — 8.IX.1967; 2 × 1 × 1/10 from seepage in drying cistern; leaf decay; abt. 600.
48Bc — 26.X.1968; sheet of water with slimy masses of algae, decay of *Terminalia;* abt. 600.
48Bd — 8.III.1970; 9 × 5 × ¼; much plant decay; ?400.
48C — 11.IX.1948; abt. 600. [*4* : 40]
48D! — at spring, 23.VIII.1955; water splashing from roof of 20 m deep tunnel; mainly weathered limestone; sinter incrustations on walls and drooping roots, dark; 460.
48Da! — 8.IX.1967; same; 400.
48Db! — 8.III.1970; 400 (12.III : 410).
48Dc! — 17.VIII.1973; 390.
48E — overflow of cistern in Hoßje; 8.IX.1967; temporary; sandy mud; abt. 500.
48Ea — overflow of cistern on wall; 17.VIII.1973; semi-permanent; mosses and weeds; abt. 400.

49 Pos Boven Bolivia, 24.III.1937; 2400, [*1* : 28; *2* : 8]
49a — 23.XI.1930; abt. 3000. [*2* : 8]

50 Tanki di Nene George, Deenterra, 25.III.1937; 50. [*1* : 28; *2* : 8]

51 Tanki Kerkhof, Kralendijk, 31.III.1937; 230 [*1* : 28; *2* : 8]

52 Pos Ichi, S of Kralendijk, 14.XI.1936; 160. [*1* : 28; *2* : 8]
52a — 31.III.1937; 1400. [*1* : 28; *2* : 9]
52b — 30.IX.1930; abt.? 1000. [*2* : 9]
52c — 2.IX.1948; 140. [*4* : 33, 41]
52d — 27.XII.1948; 90. [*4* : 33, 41]
52e — 21.II.1949; 90. [*4* : 33, 41]
52f — 26.III.1955; wet mud only with algae and *Chara.* (4.XII.1963 and 27.VIII.1967; filled up, dry)
52g — 17.III.1970; water 20 cm below surface; 100.
52A — 17.III.1970; sheet of rainwater on limestone; 260.

53 Pos Baca with cemented rim, S of Kralendijk, 14.XI.1936; 230. [*1* : 28; *2* : 9]
53a — 31.III.1937; 860. [*1* : 28; *2* : 9]
53b — 17.V.1930. [*2* : 9]
53c — 16.IX.1948; 2580. [4 : 33, 41]
53d — 21.II.1949; 550. [*4* : 34, 41]
53e — 26.III.1955; 1½ × 1½ × ½; 710.
53f — 19.VIII.1955; 1½ × 1½ × ½; 2380.
53g — 4.XII.1963; 1½ × 1½ × 1; leaf decay of *Cassia*; 195.
53h — 23.IX.1967; wet mud with limestone debris only, decay of *Heleocharis.*
53i — 26.X.1968; almost dry, shaded by *Cassia*; dirty mud (dead *Potamopyrgus*), leaf decay; polluted, 5120.

54 Pos Baca Chikitoe, 14.XI.1936; abt. 500. [*2* : 9]
54a — 16.IX.1948; same; 195. [*4* : 34, 41]
54b — 27.XII.1948; 230. [*4* : 34, 41]
54c — 21.II.1949; 105. [*4* : 34, 41]
54d — 24.III.1955; wet mud only, filled up by detritus.
54e — 19.VIII.1955; 1 × 1 × 1/10 short living pool; no algae; slightly turbid and greyish, 380.
54f — 4.XII.1963; 1½ × 1 × ½; deepened again, sink-hole next to 53; 220.

55 Pos Calbas, Lima, 1.IV.1937; 880. [*1* : 28; *2* : 9, fig. 1]
55a — 8.IX.1948; 1510. [*4* : 34, 42]
55b — 14.IX.1967; same; 1630.
55c — 18.III.1970; 2050.
55d — 13.VIII.1973; 2910.

56 Cueba di Watapana, in cave, 1.IV.1937; 1500. [*1* : 28; *2* : 9, 21, fig. 2]

57 Pos Caranja, Lima, 14.XI.1936; 2600. [*1* : 28; *2* : 10, 21]
57a — 31.III.1937; 2500. [*1* : 28; *2* : 11]
57b — 17.V.1930; abt. 2500. [*2* : 11]
57c — 5.IX.1948; 620. [*4* : 34, 42]
57d — 21.II.1949; 3330. [*4* : 34, 42]
57e — 24.III.1955; same (shrimps); 30–31°C max-min 2 days 10 cm deep, 2450.
57f — 4.XII.1963; 1220.
57g — 23.IX.1967; 3980.
57h — 19.III.1970; 1700.
57i — 15.VIII.1973; 4750.

58 — Pos Francés, near Punt Vierkant, 31.III.1937; 540. [*1* : 28; *2* : 11]
58a — 3.IX.1930; est. 600. [*2* : 11]
58b — 1.IV.1955; 2 × 1 × ½; 50 cm below limestone flat, entrance 50 × 45 cm; 740.
58c — 18.VIII.1955; 1100.

59 Pos Oranjepan, 26.III.1937; 1500. [*1* : 28; *2* : 11]

60 Pos Lansberg, S, 26.III.1937; 370. [*1* : 28; *2* : 11, IIa]
60a — 8.VI.1930; est. 400. [*1* : 11]
60b — 21.IX.1948; 8860. [*4* : 34, 42]

372 Bak di Pos Labra, Brasiel, 3.VI.1930. [*4* : 39]
372A — 22.II.1949; 1770. [*4* : 33, 39]

374 Puddle at Rincón, 26.II.1949; 85. [*4* : 33, 39]

375 Oeroesjan Blanco (Cueba di Barcadera), 3.IX.1948; 1450. [*4* : 33, 50]

376 Pos Kralendijk, N, 3.IX.1948; 90. [*4* : 33, 40]
376a — 24.II.1949; 90. [*4* : 33, 40]
376b — 16.IX.1948; 90. [*4* : 33, 40]
376A — sheet of water, 3.IX.1948; 90. [*4* : 33, 40]

377 SHEET OF WATER, Kralendijk, N, 3.IX.1948; 90. [*4* : 33, 41]

378 SHEET OF WATER, Kralendijk, N, 24.II.1949; 195. [*4* : 33, 41]

379 POS BACA GRANDI, , 2.IX.1948; 655. [*4* : 34, 41]
379a — 16.IX.1948; 1260. [*4* : 34, 41] (Pl. XXXIIa)
379b — 27.XII.1948; 180. [*4* : 34, 41]
379c — 21.II.1949; 1820. [*4* : 34, 41]
379d — 2.IX.1949; 2180. [*4* : 34, 41]
379e — 26.III.1955; thick mud, crowded with *Heleocharis*, remains of *Chara*.
379f — 19.VIII.1955; 9 × 9 × ½; muddy crowded with *Hel.*, some *Chara*; 630.
379g — 4.XII.1963; considerable growth of *Chara* and *Hel.*; 40.
379h — 27.VIII.1967; almost dry, crowded with *Hel.*; abt. ?2000.
379i — 26.X.1968; 9 × 9 × 1/5; crowded with *Hel.*, *Chara*, algae; 1210.
379j — 17.III.1970; almost no water, all *Hel.*; rainwater?, 300. (Pl. XXXIIb)
379k — 15.VIII.1973; little water; *Hel.* and *Chara, Stemodia;* 2540.
379A — 17.III.1970; puddles of rainwater on terrace; fresh. (Pl. XXXIIb)

380 POS CARANJA GRANDI, 23.IX.1930; abt. ?3000. [*4* : 42]
380a — 21.II.1949; 3370. [*4* : 34, 42]
380b — 26.III.1955; ?3 × 2 × 1–?4; cavern water in sink-hole with tidal movements; limestone and black mud, almost no algae (shady); 2400.
380c — 15.VIII.1973; same; 4870.

381 POOL NEAR PUNT VIERKANT, NE, 5.IX.1948; 210. [*4* : 34, 42] (Pl. XXXIa)

382 SALINJA DI PUNT VIERKANT, E, 5.IX.1948; 3812. [*4* : 34, 42, IIa]
382a — 27.III.1955; ?50 × 20 × ¼; temporary sheet of water; limestone with tufa deposits covered by *Chara, Conocarpus* trees (innumerable *Cyprinodon dearborni*); rather turbid, brownish yellow, 5400.
382b — 1.IV.1955; 20 × 15 × 1/10; *Chara*, dried *Ruppia* (crowded *Cypr.*); 8800.
382c — 5.IV.1955; 10 × 2 × 1/20; (*Cypr.* soup); 22,900.
382d — 6.IV.1955; 4 × 1 × 1/100; (a few living *Cypr.*, carpet of dead fishes, est. 500,000 on 50 m²); 26,200.
382A — hole in salina, 5.IX.1948. [*4* : 42]
382Aa — 15.IX.1948; 4370. [*4* : 34, 42]
382Ab — 1.IV.1955; wet mud 27 cm below surface, entrance 16½ × 16 cm with rim, coating of algae.
382Ac — 18.VIII.1955; only a little water ¼ × ¼ × 1/5; 2300.

383 POS SOEDESTSOED, SE of Witte Pan, 21.IX.1948; 370. [*4* : 34, 42]

384 POS FLAMBAAI, near Zuidpunt, 31.IX.1948; abt. 1200. [*4* : 43]

627 TANKI MARAKA, N of Soebi Blanco, 7.IV.1955.
30 × 25 × 1½, dug, temporary; loamy soil with limestone; very muddy, abundant *Chara*; turbid, abt. ?500.

628 SABANA KRALENDIJK, S, 16.IV.1955. (Pl. XXXIb)
?80 × 30 × 2/5; one of the many temporary sheets of water united after rains on limestone plateau, muddy, with *Chara* and *Ruppia*, *Conocarpus* trees; few small algae; rather turbid, 11,200.

628a — 22.VIII.1955; 40 × 30 × ¼, possibly dry few weeks before; felty patches of algae; 54,000.

628A — next to 628a; 22.VIII.1955; 40 × 30 × ¼, dry a few weeks before?; felty patches of algae; 11,900.

628B — 17.III.1970; shallow pools, almost dead *Chara* and young *Ruppia*; 18,000.

629 POS SHIKI, N of Lima, 19.VIII.1955.
40 × 39 × ¾; semi-permanent, in contact with cavern water; limestone and detritus; muddy, algae; 6200.

s.n. — 3.XII.1930; 15 × 10 × ½; abt. ?8000.

630 TANKI CARANJA, Lima, 27.III.1955.
30 × 20 × ½; temporary, low limestone terrace between *Conocarpus*; muddy, growth of *Chara*, bordered by *Heleocharis*; 430.

641 BLAUWE PAN PUTTEN, 9.IV.1955.
Small puddle in wet mud of three abandoned, artificial wells, 1 m below surface of limestone plateau, no vegetation; 190.

805 TANKI SOUTH OF SOEREBON, 6.XII.1963. [*52* : VIIb]
50 × 40 × ½; semi-permanent low part of limestone plateau between *Conocarpus*; somewhat muddy, coating of small algae; 675.

882 POS DI SALINJA DI CAI (1), 9.VIII.1967.
1 × ¼ × ½; cavern 60 cm below surface of limestone flat made accessible by entrance of 35 × 25 cm; locally used, covered; ?1000.

882a — 30.X.1968; ?1200.

883 POS DI LAC, Bacuna W, 10.IX.1967.
2 × 2 × 1; about ½ m below surface, one of abt. 12 wells in limestone terrace; sandy bottom, some mud; 4300.

884 POS DI LAC, Bacuna, 10.IX.1967.
2 × 2 × 1/10; 1 m below terrace; algae (*Cyprinodon*); 5540.

885 POS DI LAC, Bacuna E, 10.IX.1967.
½ × ⅓ × ½; about ½ m below surface; algae (tadpoles of *Puludicola brachyops*); turbid, 1640.

886 POS GARATI, E Bacuna, S, 10.IX.1967.
2 × 2 × ½; 1 m below surface of terrace, artificial, made accessible for goats; abundant blue-algae; 1740.

887 Pos Garati, E Bacuna, 250 m N of 886, 10.IX.1967.
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2}$; about $1\frac{1}{2}$ m below surface, artificial goat well with cemented rim; abundant blue-algae (*Potamopyrgus parvulus*); 2170.

888 Pos di Palu Grande, W Lac, 13.VIII.1967.
$1 \times \frac{1}{2} \times 1/20$; cut in limestone 25 m from border of lagoon; muddy, polluted by *Rhizophora* decay, and by goats; 1870.

889 Pos di Pia, NW of Onima, 22.IX.1967.
$?2 \times 1\frac{1}{2} \times \frac{1}{2}$; in cavern below limestone plateau near shore, opening of $1 \times \frac{1}{2}$ m with cemented rim, frequently stirred by water-drawers; $27\frac{1}{2}$°C, 400.

889A — pool, 22.IX.1967; $1 \times 1 \times 1/5$ acting as trough; very little algae, goat droppings; abt. ?1000.

890 Tanki di Oliver Coffie, Playa Grandi, 2.IX.1967.
$20 \times 5 \times 1/10$, drying artificial pool; very muddy with only a few flocculous algae (dying *Eleotris*); 80.

898 Pos di Mangle, National Park Washington, 29.X.1968. (Pl. XXXIIIb)
$15 \times 15 \times ?\frac{1}{2}$; semi-permanent, dug; very muddy with single tree of *Prosopis juliflora*, floating flabs of algae; abt. ?3000.

898a — 18.III.1970; $15 \times 15 \times ?\frac{1}{2}$, without vegetation, some decay of *Prosopis*; turbid, greenish brown, 2870.

898b — 16.VIII.1973; some wet mud near tree only covered with algae, trampled upon by goats; 2730.

899 Washington Gate cistern (1), 26.IX.1968.
$?3 \times 3 \times 1$; cemented cistern for rainwater; 120.

899a — 17.III.1970; 2 m deep water, coating of algae; 130.

899b — 18.III.1973; $\frac{1}{2}$ m deep water, $2\frac{1}{2}$ m below rim; flocculous algae; 80.

900 Pos Roshikiri, 800 m W of Spelonk, 500 m from shore, 27.X.1968.
$?2 \times 2 \times ?1$; cavern water 5 m below surface of limestone terrace; muddy rock detritus with coating of algae (*Coenobita*); turbid, 10,900.

901 Pos di Salinja di Cai (2), 3 m NE of 882, 30.X.1968.
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2}$; cut in limestone; muddy, flabs of algae; 2850.

901a — 9.VIII.1967; 1950.

902 Pos di Salinja di Cai (3), 3 m E of 901, 30.X.1968.
$1 \times 1 \times 1/20$; cut in limestone; muddy, few algae, goat well; 4030.

902a — 9.VIII.1967; wet mud with some *Heleocharis*.

903 Bak di Witte Pan, 30.X.1968.
$1\frac{1}{2} \times 1 \times 4/5$; cemented cistern; possibly recently filled by rainwater. sk.

930 Bak di Ceru Pretu, Washington, 18.III.1970.
$2\frac{1}{2} \times 2\frac{1}{2} \times \frac{1}{2}$; 1 m below rim of cemented cistern; 140.

931 TANKI DI CULTUURGEBIED WASHINGTON, 18.III.1970.
?100 × 50 × ?1; temporary, filled Nov.1969; turbid, greyish brown, 100.

932 BAK DI WASHINGTON, near gate (2), 17.III.1970.
1½ × 1½ × 1½; ¾ m below rim of cistern for rainwater, in part covered by zinc plate; 190.

932a — 18.VIII.1973; ½ m water, dirty, covered with bacteria; 200.

933 SALINJA MATIJS, NE corner, Washington, 17.III.1970.
Drying inundated mudflat; flabs of algae caught in branches of *Laguncularia, Ruppia* (innumerable *Heterocorixa, Uca*, and dragonfly larvae of *Pantala*); 9040.

934 SALINJA MATIJS, SE part, 17.III.1970. (Pl. XXXVIa)
> 100 × 50 × ½; inundated mudflat; dense *Ruppia* (innumerable *Heterocorixa* and *Uca*); 9440.

935 TANKI DI DAM GRANDI, N of Lac, 12.III.1970.
?100 × 80 × ?2; muddy basin filled by surface water after rains; without vegetation; turbid, 200.

936 POS DI DAM GRANDI, N of Lac, 12.III.1970.
4 × 3 × 1 with sheet of water 50 × 30 × ¼; muddy, without vegetation (abundant *Tropisternum* beetles); brownish, 50.

0129 PUDDLE OF SALINJA MATIJS, E of mouth, 18.III.1973.
⅓ × ¼ × 1/20; seepage among coral rubble; muddy and dirty (*Uca* and *Coenobita*); 15,470.

0130 OEROESJAN BLANCO (= 375, Cave of Barcadera), 12.VIII.1973.
> 6 × 2 × 1½; cavern water with floe calcite (crustaceans); 2190.

Klein Bonaire (Fig. 23)

61 POS DI CAS, 15.XI.1936; est. 400. [2 : 11]
61a — 23.III.1937; 410. [*1* : 28; *2* : 11]
61b — 7.IX.1948; 620. [*4* : 34, 43]
61c — 20.VIII.1955; ?4 × 2 × ?1½, cavern water in sink-hole of limestone terrace, polluted by heaps of goat droppings; 710.
61d — 3.XII.1963; most goat faeces removed; 395.

62 SHEET OF WATER, 15.XI.1936; abt. 60 . [*2* : 12]

63 TANKI CALBAS, 15.XI.1936; 120. [*1* : 28; *2* : 12]
63a — 23.III.1937; 850. [*1* : 28; *2* : 12]
63b — 9.VI.1930; est. 700. [*2* : 12]
63c — 7.IX.1948; 12,160. [*2*: 34, 43, IIb]
63d — 1.IX.1949; 12,410. [*2* : 34, 43]

63e — 20.VIII.1955 ; 15 × 10 × ½; crowded with *Chara* and *Ruppia;* 2550.
63f — 30.III.1955; 220. (3.XII.1955, dry, wet mud.)
63A — crab hole, 3.XII.1963; hole of *Cardisoma* in muddy bottom of dried up pool; 1720.

385/6 CRAB HOLE near Salina, 7.IX.1948; 2180 and 1800. [*4* : 34, 43]

809 SHEET OF WATER near Tanki (Pos) Calbas, 3.XII.1963. 2 × 2 × ½; rainwater pool on limestone; muddy plant decay, algae and grasses; 70.

Klein Curaçao (Pl. XXXVIII)

64-A POS N OF LIGHTHOUSE, 29.VIII.1936; 530 and 5050. [*1* : 28; *2* : 12]

387 POS N OF LIGHTHOUSE, 1.X.1948; 725. [*4* : 34, 43] (cf. Pl. XXXVIIIa)

Curaçao (Fig. 24–26 ; Pl. XLI – XLII)

65 POS DI HOFJE ARIBA, Fuik, 9.IX.1936; 200. [*1* : 28; *2* : 12]
65A Bak di Hofje Ariba, 9.IX.1936; 210. [*1* : 28; *2* : 23]

66 TANKI DI CAS KLEIN ST. JORIS, 6.IX.1936; 1980. [*1* : 28; *2* : 13]

67 BAK DI HOFJE GROOT ST.JORIS, 20.X.1936; 790. [*1* : 28; *2* : 13]
67a — 9.IV.1949; 745. [*4* : 35, 43]

68/9 PUDDLE AT PISCADERA BAY, 10.X.1936; 40 and 60. [*1* : 28; *2* : 13]

70 TANKI KOENOEKOE HATOEN, E of Hato, 15.X.1936; 690. [*1* : 28; *2* : 13]

71! BOCA SPELONK di Bak Ariba, Hato, 13.X.1936; 310. [*1* : 28; *2* : 13, 21]
71a! — 29.VIII.1949; 705. [*4* : 35, 44]
71b! — 23.XII.1963; 345.
71c! — 27.II.1970; walled in spring of about ⅔ m³/h, almost dark (many *Metaniphargus*, several *Cyathura*); 240.
71A Bak Ariba di Boca Spelonk, 13.X.1936; ?310. [*1* : 13]

72! BOCA DI LEEUW, Hofje Hato, 13.X.1936; 210. [*1* : 28; *2* : 13, 21] (Pl. XLIb)
72a! — 29.VIII.1949; 365. [*4* : 35, 44]
72b! — 23.XII.1963; ?2 × 1½ × ½, soft mud, dark; 210.
72c — 27.II.1970, much soft mud, still dark (many *Metaniphargus)*; 200.
72A! Bak di Boca di Leeuw, 13.X.1936 (dry in 1948 and 1963); ?210. [*2* : 14]

73 GROT VAN HATO, Kamber di Awa, 16.IX.1936; 160. [*1* : 28; *2* : 14]
73a — 5.X.1936 (dry in 1948 an 1963); 160. [*1* : 28; *2* : 14]

74! BRON CAJOEDA, Hato, 1.X.1936; 320. [*1* : 28; *2* : 14, 21]
74a — 5.IX.1949 ; 1130. [*4* : 35, 44]
74b — 26.IX.1948; abt. 500 [*4* : 45]
74c — 27.VIII.1955; 1/5 × 1/10 × 1/50, seepage near spring, altered drinking place; 29°C, 490.

75 TANKI MAMAJA, Hato, 6.X.1936; 450. [*1* : 28; *2* : 14]
75a — 11.X.1936; 380. [*1* : 28; *2* : 14, 21]

76! BRON WANDONGO, Hato, 6.X.1936; 230. [*1* : 28,Vb; *2* : 14]
76A! — 6.X.1936 ; 230. [1 : Vb; 2 : 14]
76Aa! — 11.X.1936; 240. [*1* : 28; *2* : 15, 21]
76B — 11.X.1936; ?250. [*2* : 15]
76Ba — 15.X.1967; a little flowing water with *Chara* and *Helelocharis*; abt. ?200.
76C — 27.VIII.1955; 2 × 1 × ½; cemented trough; muddy leaf decay; 29½°C, ?250.
76Ca — 15.X.1967; treated with oil, ?150.
76D — 27.VIII.1955; seepage from 76C; rock debris; 28½°C, 250.
76Da — 15.X.1967; 150.

77! BAK RINCÓN, W of Hato, 11.X.1936; 150. [*1* : 28; *2* : 15, 21]
77a — 31.XII.1963; 5 × 3 × 1½, water level 2 m below surface; very little mud some waste paper, timber, tins and other debris; 175.
77b — 15.X.1967; 1 m or more water, boulders and leaf decay; 160.
77c — 27.II.1970; still much water; somewhat polluted by oil, 160.
77A — 11.X.1936; abt. 200. [*2* : 15]

78 TANKI MONPOS, W of Hato, 11.X.1936; 310. [*1* : 28; *2* : 15]

79! BRON SAN PEDRO, S, gutter, 22.X.1936; 360. [*1* : 28; *2* : 15, 21] (Pl. XLIc)
79a! — spring, 1.XII.1948; 440. [*4* : 35, 45]
79b! — spring, 5.III.1955; ?1 × ¼ × 1/20; rather rapidly flowing, abt. 2 m³/h; walled in near limestone cliff; sandy debris, algae; 30.5°C, 460.
79c! — spring, 15.X.1967; 310.
79d! — spring, 28.II.1970; est. 2 m³/h; 400.
79e! — spring, 7.XI.1968; 330. (21.XI.1968; 360)
79A! — gutter, 22.X.1936 ; 360. [*4* : 45] (cf. Pl. XLIc)
79B — trough, 13.II.1949; 390. [*4* : 35, 45]

80! BRON SAN PEDRO, N, 22.X.1936; 360. [*1* : 28; *2* : 15]
80a! — 1.XII.1948; 600. [*4* : 35, 45]
80b! — 5.III.1955; 1 × ½ × ⅓; pool at spring; sandy debris, decay; 29°C, 325.
80c — 15.X.1967; 420.
80d — 22.X.1968; abt. 500.
80e — 7.XI.1968; 500.
80f — 28.II.1970; 400.
80g — 27.III.1970; 410.
80h — 9.IX.1973; 480.
80A! — pools, 22.X.1936; 460. [*1* : 28; *2* : 15]

80Aa! — 13.II.1949; 495. [*4* : 36, 45]
80Ab — 11.III.1949. [*4* : 46]
80Ac — 5.III.1955; 1 × ½ × ½; almost stagnant pools of cascade; ?450.
80Ad — 28.X.1963; 500.
80Ae — 28.II.1970; abt? 600.

81 Pos di Wanga, Midden Curaçao, 9.XI.1936; 260. [*1* : 28; *2* : 15, 21]

82 Pos Europa, Dokterstuin, 27.X.1936; 470. [*1* : 28; *2* : 16]
82a — 11.II.1949; 210. [4 : 36, 47]
82b — 22.X.1968; 830.

83 Pos Ariba, Dokterstuin, 27.X.1936; 710. [*1* : 28; *2* : 16]
83a — 29.X.1936; 620. [*2* : 16, 21; *4* : 47]

84 Pos di Hofje Chikitoe, St. Kruis, 24.X.1936; 270. [*1* : 28; *2* : 16]

85 Tanki St. Kruis, 24.X.1936; 430. [*1* : 28; *2* : 16]

86! Pos Sorsaka, 10.XI.1936; 600. [*1* : 28; *2* : 16]

87! Bon di Rooi Sánchez, Knip, 11.XI.1936; 2100. [*1* : 28; *2* : 16; *52* : X]

88! Pos Sjimarrón, Rooi Beroe, Savonet, 10.XI.1936; 3500. [*1* : 28; *2* : 16]
88a — 23.XII.1936; 1490. [*4* : 36, 47]
88b — 11.II.1949; 760. [*4* : 36, 47]

89 Tanki di Hofje Savonet, 29.X.1936; 3200. [*1* : 28; *2* : 26]

90 Puddle, Westpunt, 27.X.1936; 44. [*1* : 28; *2* : 16]

388 Pos Bacoval, Santa Barbara, 14.VIII.1948; 955. [*4* : 35, 43]

389 Pool at Agricultural Experiment Station, 11.XII.1948; 690. [*4* : 35, 44]
389A — 11.XII.1948; abt. 700.
389B — 31.XII.1963; 4 × 1 × 1 semi-permanent, concrete basin with plant decay, *Nymphaea, Papyrus,* etc.; 535.

390 Pool at Museum in garden, Mundo Nobo, 25.IV.1949; 725. [*4* : 35, 44; *52* : IXb]

391 Pools of Chinese Gardens. Julianadorp, 4.I.1950; abt.? 800. [*4* : 44]

392 Tanki di Steenen Koraal, 17.IV.1949; 1560. [*4* : 35, 45]

393 Well in cave W of Hato, 7.III.1949; 2500. [*4* : 35, 45]

394 Sjingod, NW of Hato, near shore, 7.III.1949; 3260. [*4* : 35, 45]
394a — 11.VIII.1962 (Louise J. van der Steen coll.); 2980.
394b — 15.X.1967; 3170.

395! BRON SAN PEDRO, S Hofje, 13.II.1949; 405. [*4* : 35, 45]

395a! — 5.III.1955; ?2 × 1/3 × 1/10; slowly flowing spring abt 4/5 m³/h, 5 m from 79; sandy debris, leaf decay, algae; 30°C, 460.

395b! — 15.X.1967; ?310.

395A — pool, 5.III.1955; semi-permanent overflow, muddy; polluted, abt. ?500.

396 TANKI DI TERA CORÁ, Middle Curaçao, 20.VIII.1948; 335. [*4* : 36, 46]

396a — 1.XII.1948; 160. [*4* : 36, 46]

396b — 29.I.1949; abt. 400. [*4* : 46]

396c — 11.II.1949; 480. [*4* : 36, 46]

396d — 2.III.1955; 15 × 15 × ¼ ; temporary pool; thick mud, slimy blue-algae. *Chara*; polluted by ducks, brownish grey, 31°C, 170.

397 TANKI MARTHA-KOOSJE, near Kleine Berg, 24.VIII.1948; 320. [*4* : 36, 46] (cf. Pl. XLIa)

397a — 1.XII.1948 : 125. [4 : 36, 46]

397b — 29.I.1949; 240. [*4* : 36, 46]

397c — 11.II.1949; 280. [*4* : 36, 46]

397d — 15.IV.1949; 510. [*4* : 36, 46]

397e — 2.III.1955; 30 × 20 × 1½; semi-permanent pool; very muddy with abundant algae, 2 m wide belt of *Chara, Najas* and *Alisma*; turbid, brownish grey, 33–34°C, 170.

397f — 22.V.1955; wet mud without plant cover; 32° (surface)–39°C (below) at 15 h, 230. (cf. Pl. XLIa)

397g — 28.X.1963; 155.

398 TANKI NOBO DE MALPAYS, 28.X.1948; 125. [*4* : 36, 46]

399 POS CAJOEDA, KNIP, 17.VIII.1948; 390. [*4* : 36, 47]

822 POS NE OF SEINPOST, Fuik, 27.X.1963.
1 × 4/5 × ½; trough near 12 m deep well; muddy decay; turbid, 795.

822a — 22.XI.1963; wet mud only.

823 POS HOFJE SAVONET, 19.XI.1963.
3 × 1½ × ¼; trough near 9 m deep well; some mud, sinter; algae and some *Chara*; 620.

891 HOFJE SAN PEDRO S, 15.X.1967.
20 × 10 × ½; sheet of water on limestone terrace from 395 (cf. 395A), short-living; mud with algae (corixids, *Paludicola* tadpools); abt. ? 800.

891a — 7.XI.1968; some water with algae; abt.?800.

892 TANKI DI MALPAYS, downstream of dam, 26.X.1967.
30 × 15 × ½; temporary mudpool, crowded with *Nymphaea, Najas* and duckweed; 470.

893 TANKI DI MALPAYS, upstream of dam, 26.X.1967. (Pl. XLIIb)
?30 × 20 × 1; muddy water without vegetation; turbid, yellowish brown, 590.

894 TANKI DI MALPAYS, upstream of dam, 26.X.1967.
10 × 5 × ½; muddy pool in contact with 893 after rain; some *Najas* and algae; 510.

895 TANKI DI MALPAYS, near dam 2 km upstream, 26.X.1967.
100 × 20 × ½; grassy plain with Verbenaceae, clumps of algae (tadpoles); 310.

904 POS AWA DI OOSTPUNT, E, 21.IX.1968.
?1 × 1 × ½; 1 m below surface of limestone flat; 340.

914 POS DI COSTA, cistern, NE coast Kl. St. Joris, 21.X.1968.
2½ × 2½ × 1; cemented, 3 years old; 920.

914a — well, 22.II.1970; 2300.

943 TANKI DI BOCA BRAUN, W of Boca Grandi, 27.III.1970. (Pl. XLIIa)
20 × 15 × ½; temporary pond behind recent dam; very muddy, almost no vegetation (Hydrophyllid beetles and Bryozoa on pieces of rock and wood); 200.

944 TANKI DI MOLINO, SANTA CRUZ, 20.II.1970.
>20 × 5 × ¾; swampy area draining by culvert into the Salina; sandy mud with rock debris, masses of algae (many fishes); brownish, 1900.

0139 TANKI LANDHUIS SIBERIË, N, 9.IX.1973.
15 × 15 × ?1, temporary, dug; very muddy, almost no vegetation; recently filled by rain; 30.

Aruba (Fig. 27; Pl. XLVI – IL)

91 PUDDLE IN CAVERN, Quadirikiri, 9.II.1937; 80. [*1* : 28; *2* : 17]

92! POS DI FONTEIN, 23.XII.1936; 400. [*1* : 28; *2* : 17, 21]

92a! — 9.XI.1963; 1 × 1 × 1½; renewing cavern water in well; sandy mud; very few algae, shady (many *Metaniphargus*); 380.

93 FONTEIN, pond, 23.XII.1936; 400. [*1* : 28; *2* : 17] (Pl. XLVIIb)

93a — 2.VII.1930; 210. [*2* : 17]

93b — 30.XII.1948; 460. [*4* : 36, 47]

93c — 12.VIII.1955; 15 × 10 × ½; overflowing in garden; abundant algae, few waterlilies (many *Mollienesia sphenops vandepolli*); 510.

93d — 4.VIII.1962 (L. J. v.d. Steen coll.); 420.

93e — 9.XI.1963; without vegetation owing to introduction of *Tilapia*; 425.

93A! — gutter, 2.VII.1930; 210. [*4* : 47]

93Aa! — 30.XII.1948; 460. [*4* : 47]

93Ab! — 9.IX.1963; >10 × ½ × ¼; overflow of pond, drainage of cultivated soil; 425.

94 Pos Grandi, Rooi Lamoenchi, 12.II.1937; 960. [*1* : 28; *2* : 17]

95 Pos W of Rooi Lamoenchi, 11.II.1937; 720. [*1* : 28; *2* : 17]

96 Tanki Chikitoe, W of Rooi Lamoenchi, 12.II.1937; 1570. [*1* : 28; *2* : 17]

97 Tanki Mon Plaisir, Oranjestad, 15.XII.1936; 60. [*1* : 28; *2* : 17, IVa]

98 Tanki di Hofje Westpunt, 9.XII.1936; 80. [*1* : 28; *2* : 17]

99 Tanki di Goudmijn Tibusji, 9.XII.1936; 170. [*1* : 28; *2* : 18]

100 Tanki Leendert, 16.XII.1936; 35. [*1* : 28; *2* : 18]
100A — 8.VIII.1962 (L. J. van der Steen); 8 × 5 × 1/10, short-living muddy pool; algae with *Chara*.

101 Tanki Rooi Canashito, 7.XII.1936; 3500. [*1* : 28; *2* : 18]

102! Pos di Noord, spring, 30.XII.1936; 3250. [*1* : 28; *2* : 18, 21]
102A! — pools, 30.XII.1936; 3300. [*1* : 28; *2* : 18]
102Aa! — 28.VI.1930; est. abt. 3500. [*2* : 18]
102B! Pos di Noord, 12.XI.1963; > 10 × 1 × ¼ rapidly flowing after heavy rains; 200.

103! Rooi Bringamosa, brooklet, 6.I.1937; 3150. [*1* : 28, VIb; *2* : 18, 21]
103a! — 18.I.1949; 4910. [*4* : 37, 48]
103b — 4.VII.1962 (L. J. v.d. Steen coll.); 7480.
103c! — 5.XI.1963; same (many *Mollienesia*); abt. ?5000.
103d — 20.X.1967; 4390.
103B — pool, 5.XI.1963; 6080.

104! Bron di Rooi Prins, 9.I.1937; 1300. [1 : 28; *2* : 18, 21] (Pl. ILb)
104a! — 26.VIII.1949; 1345. [*4* : 48]
104b! — 12.VIII.1955; same watervein in gravel and coarse sand as deep as 10 cm; 30.5°C, ?1780.
104A! — waterflow, 9.I.1937; 1300. [*2* : 18]
104Aa! — 26.VIII.1949; 1345. [*4* : 37, 48, VIb]
104Ab! — 12.VIII.1955; (1 ×) 1/5 × 1/20; rapidly flowing abt. 2/3 m³/h, semi-permanent; rock debris, algae; 31°C, 1780.
104B — pool, 9.I.1937; ?1300. [*2* : 19]
104Ba — 4.VII.1930; abt. ?1000. [*2* : 19]
104Bc! — 12.VIII.1955; ?3 × 3 × ½, slowly overflowing pool below cascade; algae (many *Mollienesia*); 31–36°C, 1780.
104Bd — 4.VIII.1962 (L. J. v.d. Steen coll.); moist mud.
104C — puddle, 20 m downstream, 12.VIII.1955; ¼ × ¼ × ¼; temporary, sandy mud; turbid, abt. ?3000.

400 Tanki W of Hooiberg, 31.XII.1948; 60. [*4* : 36, 47] (Pl. XLVIb)
400b–c — 18–19.I.1949; 18. [*4* : 36, 47]
400d — 10.II.1949; 43. [*4* : 36, 47]

400e — 11.V.1955; very little water in dried up pool; no vegetation : 120.
400f — 4.VIII.1962 (L. J. v.d. Steen coll.); 50 × 30 × ?2; turbid, 112.

401 TANKI DI CAS ARIBA, Santa Cruz, 30.XII.1948; 18. [*4* : 37, 48] (Pl. XLVIIa)
401a — 18.I.1949; 35. [*4* : 37, 48]
401b — 4.VIII.1962(L. J. v.d. Steen coll.); 35 × 30 × ?1½; muddy, almost no vegetation; turbid, 150.

402 CUEBA DI ANDICURI, E of Boca, 26.VIII.1949; 780. [*4* : 37, 48]
402a — 6.VIII.1962 (L. J. v.d. Steen); ?20 × 15 × ?1½, cavern water 20 m from sea; no vegetation (dusky); 1850

403 TANKI DI ROOI KABAAI, 28.XII.1948; 1860. [*4* : 37, 48]

404 TREE IN ROOI KABAAI, 28.XII.1948; 630. [*4* : 37, 48]

405 PUDDLE IN ROOI JUDITI, 28.XII.1948; 2260. [*4* : 37, 48]

632 MANGEL CORÁ Tunnel, Lago, 2.V.1955.
800 × 1 × 2/3; cavern water in artificial tunnel, 3 m high, in limestone terrace near sea; rock and very soft greyish mud (dark); 29.5°C; 1340 (— 1450 in E part).

633 LAGO CAVE WELL, Spelonk di seroe Corá, 13.VIII.1955.
1 × ½ × ½; 2 m deep in NW part of large cave, artificial; limestone debris (dark); 30°C, 750.

634 TROUGH OF LA SALLE, Oranjestad, 4.V.1955.
1 × 1 × 3/4; cemented trough in garden; crowded with phanerogams (fish nursery); 26°C, 120.

635 TROUGH OF LA SALLE, Oranjestad, 4.V.1955.
2 × ½ × ½; cemented trough in garden, cleaned 3 months ago, crowded with phanerogams; brownish, 28.5°C, 220.

636 POOL OF LA SALLE, Oranjestad, 4.V.1955.
2 × 2 × 1/5; cemented pool in garden, 1½ year old; crowded with algae and duckweed (innumerable daphnids); polluted by fowl; 29°C (bottom) –31°C (surface), 110.

637 PUDDLE OF LA SALLE, Oranjestad, 4.V.1955.
1 × 1 × 1/8, cemented bowl cleaned two weeks ago; few algae (numerous daphnids); polluted by fowl, 120.

638 EAGLE COLONY POOL, 27.IV.1955.
2 × 1 × ½; cemented pool in garden, crowded with phanerogams, few algae; brownish, 1720.

639 EAGLE COLONY SHEET OF WATER, 26.IV.1955.
$2 \times 1 \times 1/20$; drying sheet of water on limestone; muddy, with some small algae; 330.

639a–b — 28–29.IV.1955; moist to almost dry mud.

640! ROOI ANDICURI, SW Seroe Lucia, 11.V.1955.
$> 3 \times 1\frac{1}{2} \times \frac{1}{4}$; chain of small and large pools, often slowly flowing, semi-permanent; volcanic rock detritus; some algae with *Enteromorpha*; 3130.

641 TANKI ANDICURI, N of Hofje, 11.V.1955.
$> 50 \times 15 \times 1\frac{1}{2}$; semi-permanent pond connected with 640 after rains; sandy mud without vegetation excl. coating of algae; 3500.

825 SALINJA BALASHI (cf. Sta. 1013), 1.V.1955.
$?10 \times 1 \times \frac{1}{2}$; small and large pools on mudflat, temporary; algae and small *Ruppia*; 3500.

0141 TANKI VADER PIET, 8.VIII.1973. (Pl. XLVIIIb)
$20 \times 15 \times ?1$; temporary pool, dug in weathered dioritic rock; muddy, without vegetation; yellowish brown, 78.

La Goajira

111 POZO DE MACARALPAO, NW Castilletes, 14.I.1937; 890. [*1* : 28; *2* : 19]

112 POZO DEL CABO DE LA VELA, 22.I.1937; 65. [*1* : 28; *2* : 20; *52* : XIIb]

113 POZO DEL ARROYO DE APARÀ, El Cardón, 27.I.1937; 85. [*1* : 28; *2* : 20]

114 LAGUNA DEL PÀJARO, El Pájaro, 21.I.1937; 820. [*1* : 28; *2* : 20]

115 Río CALANCALA, San Antonio, 17.I.1937; 85. [*1* : 28, VIIIb; *2* : 20]

Paraguaná

105 POZA DE LA COMPAÑÌA, Carirubana, 15.II.1937; 140. [*1* : 28; *2* : 19]

106 POZA DE SAN ANTONIO, E of Carirubana, 16.II.1937; 170. [*1* : 28; *2* : 19]

107 POZA SUPIDEO, E of Carirubana; 16.II.1937; 190. [*1* : 28; *2* : 19]

108 ESTANQUE DE MORUY, 18.II.1937; 50. [*1* : 28; *2* : 19]

109 ESTANQUE DE SANTA FÉ, NE of Moruy, 18.II.1937; 120. [*1* : 28; *2* : 19]

110 ESTANQUE DE SANTA ANA, 16.II.1937; 110. [*1* : 28; *2* : 19]

Venezuela (Aragua, D.F., Anzoátegui, Sucre)

1! RÍO CHUSPA, E. of La Guaira, 30.VII.1936; 105. [*1* : 28; *2* : 2]

2! RÍO GUANTA, N of Barcelona, 7.IV.1937; 290 [*1* : 28; *2* : 2]

3 WATER IN BROMELIADS, Morro de Esmerarda, W of Carúpano, 10.VI.1936. [*2* : 2]

4 ESTANQUE ARRIBA DE MANGLILLO, Chacopata, Araya, 26.VI.1936; 490. [*1* : 28; *2* : 2]

5 ESTANQUE ABAJO DE MANGLILLO, Chacopata, Araya, 26.VI.1936; 200. [*1* : 28; *2* : 2]

6 ESTANQUE DE CHACOPATA, Araya, 27.VI.1936; 380. [*1* : 28; *2* : 2]

7 POZA DE CHACOPATA, Araya, 27.VI.1936; abt. ?500. [*2* : 2]

371 PUDDLE AT LOS ANGELITOS, La Guaira, 10.VIII.1948; 105. [*4* : 32, 39]
371A — 10.VIII.1948; abt. 100. [*4* : 39]

624 RANCHO GRANDE, Quebrada Rancho Chico (800 m), 18.III.1955.
Swampy watertrack with small pools (cf. Sta. 552); abt. ?100.

625! RANCHO GRANDE, Toma de la Casa (1200 m), 18.III.1955.
$>2 \times 1 \times 1/100$; quickly flowing watertrack (cf. Sta. 553); 110.

626! RANCHO GRANDE, Tomo Segundo, Est. Biológico (1200 m); 17.III.1955.
$>2 \times 1 \times 1/100$; quickly flowing water; weathered shales with dense vegetation; abt. ?100.

920 JARDIN BOTÁNICO, Laguna del Este, Caracas (1000 m), 10.XI.1968.
Artificial pond with phanerogams and algae; 60.

921 JARDIN BOTÁNICO, Laguna del Oeste, Caracas (1000 m), 10.XI.1968.
Large artificial pond; 70.

Suriname (abridged)

118 WELL IN CULTUURTUIN, Paramaribo, 2.V.1936; 40. [*2* : 20]

119 TRENCH IN CULTUURTUIN, Paramaribo, 2.V.1936; 30. [*2* : 20]

120 POND OF BELWAARDE, near Paramaribo, 3.V.1936; 20. [*2* : 20]

406 SWAMP AT KREPI, N of Paramaribo, 2.VIII.1948; 18. [*4* : 37, 49]

407 SWAMP AT CHARLESBURG, N of Paramaribo, 2.VIII.1948; abt. 20. [*4* : 49]

408 POND AT ZANDERIJ, 3.VIII.1948; 17. [*4* : 37, 49]

409 POOL AT ZANDERIJ, 3.VIII.1948; 17. [*4* : 37, 49]

642 COUROUPINA, swamp Berseba, near Republiek, 3.IX.1955; abt. 120.
642A! — river near Republiek, 3.IX.1955; 110.

643 REPUBLIEK, 3.IX.1955; rainwater in oil drum.

644! SURINAME RIVIER, N of Kabel, 1.IX.1955; near shore, 105.
644A — 1.IX.1955; pool, abt. ?110.

645! SURINAME RIVIER, Aloesoebanja rapids, N of Kabel, 1.IX.1955; ?105.
645A — 1.IX.1955; pools with *Mourera*; ?105.

646 DITCH AT KABEL, 2.IX.1955; 110.

647! MAKAMBI KREEK, near Kabel, 31.VIII.1955; slowly flowing; abt. ?10.

829 SURINAME RIVIER at Brokopondo, 27.II.1964; pools after closure of dam on Feb. 1st; abt. 50.

830 MALASIE KREEK, Zanderij, 25.II.1964; pool in creek; 10.
830A — small pool, 25.II.1964 (likewise crowded with tadpoles and fish); 15.

831 SURINAME RIVIER at Paramaribo, wreck of Goslar, 7.III.1964; 0–2 m deep; 10,370.

REFERENCES

including publications dealing with the material collected

Stud. = *Studies on the fauna of Curaçao and other Caribbean islands*
[plates not included in the text]

The *locality references* are abbreviated as follow (*italics*):

Virginia Key	*St. Eustatius*	Los *Frailes*
Key Biscayne	*St. Kitts*	*Margarita*
Bimini	*Nevis*	*Coche*
New Providence	*Barbuda*	*Cubagua*
Grand Cayman	*Antigua*	Los *Hermanos*
Little Cayman	*Montserrat*	*Blanquilla*
Cayman Brac	*Guadeloupe*	*Tortuga*
Jamaica	La *Désirade*	*Orchila*
Hispanioloa	*Marie-Galante*	Los *Roques*
Puerto Rico	Les *Saintes*	*Aves* de Barlovento
St. Thomas	*Dominica*	*Bonaire*
St. John	*Islote Aves*	*Klein Bonaire*
St. Croix	*Martinique*	*Klein Curaçao*
Dog Island	*St. Lucia*	*Curaçao*
Anguilla	*St. Vincent*	*Aruba*
St. Martin	*Barbados*	La *Goajira*
Tintamarre	*Grenada*	*Paraguaná*
Fourche	*Tobago*	N – NE *Venezuelan mainland*
St. Barts	*Trinidad*	*Suriname*
Saba	Los *Testigos*	

ARMAS, LUIS F DE, 1976. Escorpiones del Archipiélago Cubano V. Nuevas especies de Centruroides ... Addenda. *Poeyana 146*, 55 pp., 6 figs. Addenda p. 53–55. – Saba, St. E., Ant.

ARMAS, LUIS F. DE, 1976. Notas sobre distribución geográfica de Isometrus maculatus ... *Miscelanea zoologica, Cuba, 5*, p. 3–4, – Ang., St. M., St. B., St. E., Guad.

AUGENER, H., 1933. Süszwasser-Polychaeten von Bonaire. *Zool. Jahrb. Syst. 64*, p. 351–356, 1 fig. – Bon. e.g. 48.

BAKER, HORACE BURRINGTON, 1924. Land and freshwater molluscs of the Leeward Islands. *Occ. Pap. Mus. Zool. Michigan 152*, 159 pp., 21 pls. excl. – Photogr. of localities; cf. Bon. 379.

BAKKER, MIEKE A., 1963. A new subspecies of the scorpion Rhopalurus hasethi, *Stud. 15*, p. 102–117, fig. 16–22. – Bon., Cur., Ar.

BASKIN, JONATHAN N. & WILLIAMS, ERNEST E., 1966. The Lesser Antillean Ameiva (Sauria, Teiidae). *Stud. 23*, p. 1–143, fig. 1–41.

BEAUFORT, L. F. DE, 1940. Freshwater fishes from the Leeward Group, Venezuela and eastern Colombia. *Stud. 2*, p. 109–114, pl. 10. – Marg., Roques, Bon., Cur., Ar., Goaj., Par., Ven.

BEIER, MAX, 1936. Einige neue neotropische Pseudoscorpione. *Zool. Jahrb. Syst. 67*, p. 443–447, 4 figs. – Bon. cf. 182 and 315; Cur.; Ar. (896); Ven.

BOESEMAN, M., 1960. The fresh-water fishes of the island of Trinidad. *Stud. 10*, p. 72–153, fig. 36. – Trin. 653.

BOTOSANEANU, L., 1959. Helicopsyche margaritensis, trichoptère nouveau des Petites Antilles. *Stud. 9*, p. 61–68, fig. 84–86. – Marg.

BOTOSANEANU, L., 1973. Notes sur quelques trichoptères des Petites Antilles. *Stud. 43*, p. 42–49, fig. 45–47. – St. Th., Monts., Trin., Marg., Cur.

BOTOSANEANU, L., 1980. Stygiomysis holthuisi found on Anguilla (Crustacea: Mysidacea). *Stud. 61*, p. 128–132, fig. 32–37. – Ang., St. M.

BOTOSANEANU, LAZARE & STOCK, JAN H., 1979. Arubolana imula n. gen., n. sp., the first hypogean cirolanid isopod crustacean found in the Lesser Antilles. Report Amsterdam Exp. W.I. Isl. 6, *Bijdr. Dierk. 49* (2), p. 227–233, 12 figs. – From Aruba (sta. 632).

BOWMAN, THOMAS E. 1965, Cyathura specus, a new cave isopod from Cuba. *Stud.* 22, p. 88–97, fig. 46–88. – Cur.

BRATTEGARD, TORLEIV, 1977. Three species of Mysidacea (Crustacea) from Surinam. *Zool. Meded. Leiden 50*, p. 283–293, 3 figs. – Sur.

BRENNAN, JAMES M., 1967. New records of chiggers from the West Indies. *Stud. 24*, p. 146–156, fig. 42–44. – N. Prov., St. B., Trin., Marg., Cur., Ar.

BREURE, A.S.H., 1974. Caribbean land molluscs: Bulimulidae. I. Bulimulus. *Stud. 45*, p. 1–80, fig. 1–94, pl. 1–7. – P.R., St. Th., St. J., St. Cr., Dog. I., Ang., St. M., St. B., Saba, St. E., St. K., Barbuda, Ant., Guad., Désirade, Marie-G., Dom., Mart., Barbados, Marg.

BRINDLE, A., 1971. The Dermaptera of the Caribbean. *Stud. 38*, p. 1–75, fig. 1–61. – Virg. Key, Key Bisc., Bim., P.R., St. Th., St. Cr., St. M., St. B., Saba, St. E., St. K., Barbuda, Ant., Monts., Désirade, Marie-G., Saintes, Mart., St. V., Barbados, Gren., Tob., Trin., Marg., Bon., Cur., Ar.

BRONGERSMA, L. D., 1940. Snakes from the Leeward Group, Venezuela and eastern Colombia. *Stud. 2*, p. 115–137, pl. 11, 12a. – Test., Marg., Bon., Cur., Ar., Goaj., Ven.

BRONGERSMA, L. D., 1948. Frogs from the Leeward Group, Venezuela and eastern Colombia. *Stud. 3*, p. 89–95, fig. 30–31. – Marg., Bon., Cur., Ar., Goaj., Ven.

BRONGERSMA, L. D., 1959. Some snakes from the Lesser Antilles. *Stud. 9*, p. 50–60, fig. 83, pl. 4–5. – Ang., St. M., St. B., Saba, St. E., s.n.

BUCK, F. D., 1960. Anthicid beetles from Venezuela Colombia, Cuba and the Netherlands Antilles. *Stud. 10*, p. 64–71, fig. 33–35. – Bon., Cur., Ar.

BUISONJÉ, P. H. DE, 1974. *Neogene and Quaternary geology of Aruba, Curaçao and Bonaire.* Publ. Found. Sci. Res. in Suriname and Neth. Ant. *78*, 293 pp., 14 figs., 34 phot., 13 pls, 4 folding maps.

BURGERS, A. C. J., 1953. The fruitfly Anastrepha serpentina in Curaçao. *Stud. 4*, p. 149–153, fig. 31. – Cur. 323, 334.

CHACE, FENNER A. & HOLTHUIS, LIPKE B., 1948. Land and fresh water decapod Crustaceae from the Leeward Group and northern South America. *Stud. 3*, p. 21–29. – Trin., Test., Marg., Blanq., Tort., Roques, Aves, Bon., Kl. Cur., Cur., Ar., Goaj., Ven.

CHAPPUIS, P. A., 1933. Süsz- und Brackwasser-Copepoden von Bonaire, Curaçao und Aruba. I. Harpacticoida. *Zool. Jahrb. Syst. 64*, p. 391–404, 11 figs. – Bon. 48, 52, 629; Cur. (71); Ar. 102.

CHRISTMAN, ROBERT A., 1953. Geology of St. Bartholomew, St. Martin, and Anguilla, West Indies. *Bull. Geol. Soc. 64*, p. 65–96, 4 figs., 2 maps & 4 phot. excl.

COBBEN, R. H., 1960. The Heteroptera of the Netherlands Antilles -I. Foreword. Gerridae, Veliidae, Mesoveliidae (Water Striders). *Stud. 11*, p. 1–34, fig. 1–18. – St. M., Saba, St. E., Bon., Kl. Bon., Kl. Cur., Cur., Ar.

COBBEN, R. H., 1960. The Heteroptera of the Netherlands Antilles – III. Saldidae (Shore Bugs). *Stud. 11*, p. 44–61, fig. 23–56. – e.g. St. M., St. E.

COBBEN, R. H. & WYGODZINSKY, P., 1975. The Heteroptera of the Netherlands Antilles – IX Reduviidae (Asassin bugs). *Stud. 48*, p. 1–62, fig. 1–156. – St. M., Saba, St. E., Bon., Cur., Ar.; greater part s.n.

COOMANS, H. E., 1967. The non-marine Mollusca of St. Martin. *Stud. 24*, p. 118–145, fig. 38–41.

COWARDIN, LEWIS M. e.a., 1979: *Classification of wetlands and deepwater habitats of the United States.* Fish Wildlife Service Wash. D.C., 103 pp., ill.

DRAKE, CARL J. & COBBEN, R. H., 1960. The Heteroptera of the Netherlands Antilles – II. Hebridae. *Stud. 11*, p. 35–43, fig. 19–22. – Bon.

DRESSCHER, TH. G. N. & ENGEL, H., 1948. Hirudinea of the genus Helobdella from Curaçao and Venezuela. *Stud. 3*, p. 87–88. – Cur., Par.

DU BOIS-REYMOND MARCUS, EVELINE, 1960. Tardigrada from Curaçao, Bonaire and Los Testigos. *Stud. 10*, p. 52–57, fig. 23–28. – Test., Cur.

DU BOIS-REYMOND MARCUS, EVELINE, 1960. Notes on the fresh-water polychaete Lycastopsis from Curaçao. *Stud. 10*, 1960, p. 58–63, fig. 29–32. – Cur.

ENCYCLOPEDIE VAN DE NEDERLANDSE ANTILLEN, 1969. Elsevier, Amsterdam, 708 pp., ill. – cf. *Nieuwe W.I. Gids 48*, 1971, p. 123–129.

FRANCKE, OSCAR F., 1978. Systematic revision of diplocentrid scorpions (Diplocentridae) from Circum-Caribbean lands. *Spec. Publ. Museum Texas Tech Univ. 14*, 92 pp., 146 figs. – Gr. Cayman, Jam., P. R., Saba, Barbuda, Ant., Saintes, Bon., Cur.

FRÉMY, P., 1941. Cyanophycées des îles Bonaire, Curaçao et Aruba d'après les récoltes ... en 1930. *Revue Algol. 12*, p. 102–152. – Cyanophycées d'eau douce, p. 130–133. – Test. 29; Blanq. 35; Bon. 50, 52, 53a; Kl. Bon. 61; Cur. 74, 75; Par. 105, 109. (See review in *West-Indische Gids 26*, 1943, p. 62–64.)

GILMOUR, E. FORREST, 1963. On the Neotropical Acanthocinini (Col., Cerambycidae, Lamiinae) some Caribbean genera and species. *Stud. 17*, p. 57–96, pl. 1–4. – St. J., St. M., St. E.

GILMOUR, E. FORREST, 1963. Some Caribbean Coleoptera Cerambycidae. *Stud. 18*, p. 75–102, pl. 1–3. – St. J., St. Cr., St. M., St. B., St. K., Barbuda, Trin.

GILMOUR, E. FORREST, 1968. The Coleoptera Cerambycidae of Curaçao, Bonaire and Aruba. *Stud. 25*, p. 83–179, pl. 9–18. – Bon., Cur., Ar.; s.n.

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. und Hydrogr. 31*, p. 287–311, 18 figs., folding table excl. – Bon. 44,45, 53, 372; Kl. Bon. 63; Cur. s.n.; Ar. 92.

HAAS, FRITZ, 1960. Caribbean land molluscs: Vertiginidae. *Stud. 10*, p. 1–17, fig. 1–2, pl. 1–5. – Bim., N. Prov., St. Th., St. J., St. Cr., Dog. I., Ang., St. M., Tint., Fourche, St. B., Saba, St. E., St. K., Nevis, Barbuda, Ant., Gren., Tob., Trin., Test., Frailes, Marg., Herm., Blanq., Tort., Orch., Bon., Kl. Bon., Kl. Cur., Cur., Ar., Goaj., Par., Ven.

HAAS, FRITZ, 1962. Caribbean land molluscs: Subulinidae and Oleacinidae. *Stud. 13*, p. 49–60, fig. 53, pl. 7–11. – Bim., N. Prov., St. Th., St. J., St. Cr., Ang., St. M., Fourche, St. B., Saba, St. E., St. K., Nevis, Barbuda, Ant., Tob., Trin., Test., Marg., Blanq., Bon., Kl. Bon., Cur., Ar., Ven., Sur.

HARTMANN-SCHRÖDER, GESA, 1980. Die Polychaeten der Amsterdam-Expeditionen nach Westindien. (Amsterdam Exped. W.I. Isl., Report 9). *Bijdr. Dierk. 50* (2), p. 387–401, 30 figs. – Various species from several localities, e.g. Bon. 48; Cur. 71, 72, 74, 79; Ar. 93.

HESS, H. H. & MAXWELL, J. C., 1949. Geological reconnaissance of the island of Margarita. *Bull. Geol. Soc. Amer. 60*, p. 1857–1869, 2 figs., 2 maps excl.

HOEDEMAN, J. J., 1958. Rivulid fishes of the Antilles. *Stud. 8*, p. 112–126, fig. 17–26, pl. 17. – St. M., Barbuda, Tob., Trin., Marg., Roques, Bon., Cur.

HOEK, C. VAN DEN, 1959. Caribbean fresh and brackish water Chlorophyta. *Blumea 9*, p. 590–625, 12 figs. – N. Prov., Dog. I., Ang., St. M., St. E., Nevis, Barbuda, Marg., Bon., Kl. Bon., Kl. Cur., Cur., Ar., Goaj., Par., Sur.

HOUNSOME, M. V. & ASKEW, R. R., 1980: Cerion nanus (Maynard) on Little Cayman. In: *Geography and ecology of Little Cayman.* Atoll Res. Bull. *241*, p. 91–95 + pl. 52–54.

HUSSON, A. M., 1960. A new species of the rodent Baiomys from Aruba and Curaçao. *Stud. 10*, p. 33–40, fig. 7. – Cur., Ar.; s.n.

HUSSON, A. M., 1960. *De zoogdieren van de Nederlandse Antillen. Mammals of the Netherlands Antilles.* Uitg. Werkgroep N.A. *12* [Found. Sci. Res. Utrecht], 170 pp., 43 pls. excl. – St.M., Saba, St.E., Bon., Cur., Ar.; s.n.

JONGE POERINK, W. H., 1953. Caribbean tiger beetles of the genus Cicindela. *Stud. 3*, p. 120–143, fig. 27–30, pl. 13–17. – Ang., St. M., Marg., Tort., Bon., Kl. Bon., Cur., Ar., Goaj., Par.

KIEFER, FRIEDRICH, 1933. Süsz- und Brackwasser-Copepoden von Bonaire Curaçao und Aruba. II. Cyclopoida. *Zool. Jahrb. Syst. 64*, p. 405–414, 15 figs. – Bon. 44, 46, 52; Ar. 93, 104.

KING WAYNE, 1960. The status of Sphaerodactylus pictus, with comments on the distribution of S. sputator and S. sabanus. *Breviora M.C.Z. 132*, 5 pp., 1 fig. – St. M., St. K. Nevis.

KING, WAYNE, 1962. Systematics of Lesser Antillean lizards of the genus Sphaerodactylus. *Bull. Flor. State Mus. 7, 1*, 52 pp., 17 figs. – St. Th., St. J., St. Cr., Dog I., Ang., St. M., Tint., Fourche, St. B., Saba, St. E., St. K., Nevis, Barbuda, Ant.

KLIE, WALTER, 1933. Süsz- und Brackwasser-Ostracoden von Bonaire, Curaçao und Aruba. *Zool. Jahrn. Syst. 64*, p. 369–390, 25 figs. – Bon. 44, 46, 49, 52, 53, 54, 57, 60, 629; Kl. Bon. 61, 63; Cur. (67); Ar. 93, 102, 104.

KOHLS, GLEN M., 1969. New records of ticks from the Lesser Antilles. *Stud. 28*, p. 126–134. – St. M., Barbuda, Saintes, I. Aves, Barbados, Frailes, Marg., Herm., Bon., Cur., Ar.

KOSTER, JOSÉPHINE TH., 1960. Caribbean brackish and freshwater Cyanophyceae. *Blumea 10*, p. 323–366, 1 + 78 figs. – Bim., N. Prov., St. Th., Ang., St. M., Tint., St. E., Nevis, Barbuda, Ant., Tob., Test., Marg., Blanq., Bon., Kl. Bon., Kl. Cur., Cur., Ar., Goaj., Ven., Sur.

KRISTENSEN, INGVAR, 1970. Competition in three cyprinodont fish species in the Netherlands Antilles. *Stud. 32*, p. 82–101, fig. 160.

KUYP. EDWIN VAN DER, 1953. Culicinae from the Netherlands Antilles and some other Caribbean localities. *Stud. 4*, p. 144–148. – Bim., Dog. I., St. M., St. B., Saba, St. E., Marg., Bon., Cur., Ar., Ven., Sur.

KUYP, EDWIN VAN DER, 1954. Mosquitoes of the Netherlands Antilles and their hygienic importance. *Stud. 5*, p. 37–114, fig. 14–23. – Several localities, s.n.

LACOURT, A. W., 1955. Freshwater Bryozoa (Phylactolaemata) from Curaçao, Aruba and Bonaire. *Stud. 6*, p. 86–88, pl. 5. – Bon., Cur., Ar.

LAMMERÉE, LIESBETH, 1970. Lizards of the genus Cnemidophorus from the Leeward Group and the adjacent mainland of South America. *Stud. 34*, p. 46–72, fig. 22–34, pl. 1–12. – Tob., Trin., Test., Frailes, Marg., Coche, Blanq., Roques, Aves, Bon., Kl. Bon., Kl. Cur., Cur., Ar., Goaj., Par., Ven., Sur.

LEUSSINK, J. A., 1958. Nematodes of the genus Ozolaimus in West Indian iguanas. *Stud. 8*, p. 127–145, fig. 27. – St. B., Saba, St. E., Test., Marg., Blanq., Bon., Cur., Ar., Goaj., Ven.

LINDER, FOLKE, 1960. Notostraca from the Netherlands Antilles, with notes on the segmentation of the group. *Stud. 10*, p. 18–32, fig. 3–6. – Bon., Cur., Ar.

MARCUS, ERNST, 1960. Turbellaria from Curaçao. *Stud. 10*, p. 41–51, fig. 8–22. – Cur.

MARCUZZI, GIORGIO, 1954. Tenebrionid beetles of Curaçao, Aruba, Bonaire, and the Venezuelan islands. *Stud. 5*, p. 1–36, fig. 1–13, pl. 1–7. – Trin., Test., Frailes, Marg., Coche, Cubagua, Herm., Blanq., Orch., Roques, Aves, Bon., Kl. Bon., Kl. Cur., Cur., Ar., Goaj., Par., Ven.

MARCUZZI, GIORGIO, 1959. Tenebrionid beetles of Curaçao, Aruba, Bonaire, and Venezuela. *Stud. 9*, p. 79–91, fig. 87, pl. 6. – Trin., Bon., Cur., Ar., Goaj., Par.

MARCUZZI, GIORGIO, 1961. Revisione delle specie venezuelane della tribù Epitragini (Col. Tenebr.) con appunti su altre specie neotropicali. *Annali Museo Civico Storia Nat. Genova 77*, p. 313–352, 57 figs. – Frailes 167; Marg. 141; Cubagua 130; Ar. s.n.; Goaj. 286, 288.

MARCUZZI, GIORGIO, 1962. Tenebrionid beetles of the West Indies. *Stud. 13*, p. 21–48, fig. 48–52, pl. 1–6. – N. Prov., St. Th., St. J., St. Cr., Ang., St. M., Tint., Fourche, St. B., Saba, St. E., St. K., Nevis, Barbuda, Ant., I. Aves, Gren., Tob., Trin., Bon., Cur., Ar.

MARCUZZI, G., 1977. Further studies on Caribbean tenebrionid beetles. *Stud. 52*, p. 1–71, fig. 1–26, pl. 1–3. – Virg. Key, Key Bisc., Gr. Cayman, L. Cayman, Cayman Brac., Jam., P. R., St. Th., St. J., St. Cr., Ang., St. M., Tint., St. B., Saba, St. E., Nevis, Barbuda, Ant., Monts., Désirade, Marie-G., Saintes, Dom., I. Aves, Mart., St. L., St. V., Barbados, Tob., Trin., Marg., Bon., Kl. Bon., Cur., Ar., Ven., Sur.

MARCUZZI, G. & CRAVERA, C. & FACCINI, E., 1980. III Contributo alla conoscenza delle forme larvali dei Tenebrionidi. *Eos Revista Esp. Entom. 54* (1978), p. 167–206, 139. figs. – Roques?, Ar.

MICHAELSEN, W., 1933. Süsz- und Brackwasser-Oligochäten von Bonaire, Curaçao und Aruba. *Zool. Jahrb. Syst. 64*, p. 327–350, pl. 1 excl. – Bon. 44, 47, 48, 52; Kl. Bon.; Cur. (67), (71); Ar. 102, 104.

NIESSER, N., 1967. The Heteroptera of the Netherlands Antilles – VI Notonectidae. *Stud. 24*, p. 157–189, fig. 45–80. – P. R., St. Th., St. J., St. M., St. B., Barbuda, Désirade, Marie-G., Barbados, Trin., Marg., Blanq., Bon., Kl. Cur., Cur., Ar., Par., Ven.

NIESER, N., 1969. The Heteroptera of the Netherlands Antilles – VII Corixidae. *Stud. 28*, p. 135–164, fig. 60–102. – P. R., St. Th., St. J., St. Cr., Ang., St. M., St. B., Barbuda, Ant., Mart., Trin., Marg., Blanq., Bon., Kl. Bon., Kl. Cur., Cur., Ar., Goaj., Par.

NIESER, N., 1969. The Heteroptera of the Netherlands Antilles – VIII. Pleidae, Naucoridae, Ranatridae. *Stud. 30*, p. 58–71, fig. 145–162. – P. R., St. Cr., St. M., Nevis, Barbuda, Guad., Marie-G., Saintes, Mart., Barbados, Gren., Trin., Marg., Bon., Cur., Ar., Par., Sur.

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. botan. néerl. 36*, p. 705–708. – Test., Bon., Kl. Bon., Cur., Goaj., Par.

RAMMNER, WALTER, 1933. Süsz- u. Brackwasser-Phyllopoden von Bonaire. *Zool. Jahrb. Syst. 64*, p. 357–368, 9 figs. – Bon. 44, 46, 52, 53; Kl. Bon. (61).

REYNE, A., 1964. Scale insects from the Netherlands Antilles. *Beaufortia 11*, 140, p. 96–130, 53 figs. – St. Cr., St. M., Aves, Bon., Cur., Ar. (see p. 97–98, s. n .).

RICHARDS, HORACE G. & WAGENAAR HUMMELINCK, P., 1940 Land and freshwater mollusks from Margarita Island, Venezuela. *Notulae Naturae 62*, 16 pp., 4 figs. –Marg.

RIDDER, MARG. DE, 1977. Rotatoria of the Caribbean region. *Stud. 52*, p. 72–134, fig. 27–47, pl. 4–12. – Key Bisc., Bimini., N. Prov., Gr. Cayman, Cayman Brac, Jam., P. R., St. Croix, Ang., St. M., Tint., St. B., Saba, St. E., Barbuda, Monts., Marie-G., Saintes, Dom., Mart., Barbados, Gren., Marg., Blanq., Roques, Bon., Kl. Bon., Kl. Cur., Cur., Ar., Goaj., Par.

SANDERS, M., 1936. Nichtmarine Fische von Bonaire, Curaçao und Aruba. *Zool. Jahrb. Syst. 67*, p. 448–454. – Bonaire e. g. 57, 58, 60; Aruba 93, 104.

SCHULTZ, GEORGE A., 1974. Terrestrial isopod crustaceans (Oniscoidea) mainly from the West Indies and adjacent regions. 1. Tylus and Ligia. *Stud. 45*, p. 162–173, fig. 112–128. – Virg. Key, Bimini, St. M., St. E., Tob., Trin., Marg., Bon., Kl. Bon., Kl. Cur., Cur., Ar.

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. – Test. 165; Marg. 141; Bon. 183; Ar. 250, (267).

SCHWARTZ, ALBERT, 1967. Frogs of the genus Eleutherodactylus in de Lesser Antilles. *Stud. 24*, p. 1–62, 16 figs. – St. M., Saba, St. E., St. K., Nevis, Ant., Guad., Désirade, Marie-G., Saintes, Marg., Barbados, Gren. ; s. n.

SELLNICK, MAX , 1963. Karibische Landmilben – I. Uropodina. *Stud. 16*, p. 1–58, fig. 1–116. – N. Prov., St. B., Nevis, Test., Marg., Ven.

SELLNICK , MAX , 1973. Karibische Landmilben – II. Uropodina. *Stud. 43*, p. 145–171, fig. 61–95. – St. K., Barbados, Trin., Marg., Ar.

STEPHENSEN, K. 1933. Fresh- and brackish-water Amphipoda from Bonaire, Curaçao and Aruba. *Zool. Jahrb. Syst. 64*, 415–436, 8 figs. – Bon. e. g. 49, 53; Cur. (71); Ar. 93.

STEPHENSEN K., 1948. Amphipods from Curaçao, Bonaire, Aruba and Margarita. *Stud. 3*, p. 1–20, fig. 1–30. – Marg., Bon., Cur., Ar.

STOCK, JAN H., 1977. The taxonomy and zoogeography of the hadziid amphipods with emphasis on the West Indian taxa. *Stud. 55*, p. 1–130, fig. 1–54. – Ang., St. M., Barbuda, Cur., Ar.

STODDART, D. R., 1980. Vegetation of Little Cayman. In : *Geography and ecology of Little Cayman.* Atoll Res. Bull. *241*, p. 53–69 + fig. 21–22 & pl. 37–51.

STOFFERS, A. L., 1956. *The vegetation of the Netherlands Antilles.* Publ. Found. Sci. Res. in Surinam and Neth. Ant. *15*, Utrecht, 142 pp., 12 figs., 28 pls. excl., 4 folding maps.

STORK, H. A., 1940. A new fresh-water isopod from Curaçao. *Stud. 2*, p. 147–150, fig. 21–23. – Cur. 71, 72, 76, 79.

TRIEBEL, ERICH , 1960. Die taxionomische Stellung und die Gattungen der Unterfamilie Macrocypridinae (Ostracoda). *Senck. Biol. 41*, p. 109–124, pl. 13–20 excl. – St. E. 507, (Bon. 1059).

TRIEBEL, ERICH, 1961. Süszwasser-Ostracoden von den Karibischen Inseln: I. Cypridini. *Senck. biol. 42*, p. 51–74 (-97), pl. 6–17 excl. – St. M., St. B., Saba, St. E., Marg., Blanq., Bon., Kl. Bon., Cur., Ar., Par.

TRIEBEL ERICH, 1962. Süszwasser-Ostracoden von den Karibischen Inseln: 2. Xenocypris n. g. *Senck. biol. 43*, p. 47–63, pl. 3–6 excl. – Marg.

VENMANS, L. A. W. C., 1963. Caribbean land molluscs: Streptaxidae. *Stud. 14*, p. 41–78, fig. 5–21, pl. 2–5. – St. J., St. Cr., St. M., Trin., Marg., Cur., Ven.

VIETS, KARL, 1940. Zwei neue Porohalacariden (Acari) aus Südamerika. *Zool. Anz. 130*, p. 191–201, 11 figs. – Marg., Bon., Kl. Bon., Cur., Ar., Ven.

VIETS KARL, 1940. Neue Hydrachnellae (Acari) aus Südamerika. *Zool. Anz. 131*, 1940, p. 90–101, 14 figs. – Marg., Kl. Bon., Cur., Ar., Par.

VRIES, WILLIE DE , 1974. Caribbean land molluscs : Notes on Cerionidae. *Stud. 45*, p. 81–117, fig. 95–104, pl. 8–14. – Key Bisc., Bimini, N. Prov., P. R., St. Cr., Bon., Kl. Bon., Kl. Cur., Cur., Ar.

WAGENAAR HUMMELINCK, P., 1933. Reisebericht. Zoologische Ergebnisse einer Reise nach Bonaire, Curaçao und Aruba im Jahre 1930. *Zool. Jahrb. Syst. 64*, p. 289–326, 2 + 14 figs. – Photogr. of localities, e. g. Bon. 57, 59, 60; Kl. Bon. 629.

WAGENAAR HUMMELINCK, P., 1939. Apuntaciones sobre las aguas superficiales del Estado Nueva Esparta y Dependencias Federales. *Bol. Soc. Venez. Cienc. Nat. 37*, p. 173–178, 2 folding tables excl.

WAGENAAR HUMMELINCK, P., 1940. General information. *Stud. (on the fauna of Curaçao, Aruba, Bonaire and the Venezuelan Islands) 1*, p. 1–57, fig. 1–19, pl 1–8. – The localities, p. 23–37.

WAGENAAR HUMMELINCK, P., 1940. A survey of the mammals, lizards and mollusks. *Stud. 1*, p. 59–108, fig. 20, pl. 9–16. – Test., Frailes, Marg., Coche., Cubagua, Herm., Blanq., Tort., Orch., Roques, Aves, Bon., Kl. Bon., Kl. Cur., Cur., Ar., Goaj., Par., Ven.

WAGENAAR HUMMELINCK, P., 1940. Zoogeographical remarks. *Stud. 1*, p. 109–130, fig. 21–22. – Leeward Group; mammals, reptiles, amphibiens, fishes, mollusks.

WAGENAAR HUMMELINCK, P., 1940. Concerning a Mazama nemorivaga cita. *Arch. Néerl. Zool. 4*, p. 133–138, 1 fig., pl. 2–4 excl. – S. A. mainland.

WAGENAAR HUMMELINCK, P., 1940. Land and freshwater mollusks from the smaller Venezuelan Islands. *Archives Néerl. Zool. 4*, p. 352–354, 1 fig. . – Test., Frailes, Herm., Blanq., Tort., Orch., Roques.

WAGENAAR HUMMELINCK, P., 1940. Description of the localities. *Stud. (fauna Curaçao, Aruba, Bonaire and Venez. Isl.) 2*, p. 1–42, fig. 1–7, pl. 1–4.

WAGENAAR HUMMELINCK, P., 1940. Mollusks of the genera Cerion and Tudora. *Stud. 2*, p. 43–82, fig. 8–10, pl. 5. – Bon., Kl. Bon., Cur., Ar.

WAGENAAR HUMMELINCK, P., 1940. Mammals of the genera Odocoileus and Sylvilagus. *Stud. 2*, p. 83–108, fig. 11–14, pl. 6–9. – Test., Marg., Cur., Av., Goaj., Ven.

WAGENAAR HUMMELINCK , P., 1940 . Scorpions. *Stud. 2*, p. 138–146, fig. 16–20, pl. 12b. – Test., Frailes, Marg., Coche, Cubagua, Herm., Tort., Bon., Kl. Bon., Cur., Ar., Goaj., Par., Ven.

WAGENAAR HUMMELINCK, P., 1943. Zoögeografische opmerkingen over de Nederlandsche Benedenwindse Eilanden. *West-Indische Gids 25*, p. 168–180, 2 figs., 8 pls. excl.

WAGENAAR HUMMELINCK, P., 1948. Pseudoscorpions of the genera Garypus, Pseudochthonius, Tyrannochthonius and Pachychitra. *Stud. 3*, p. 29–77, fig. 6–29, pl. 1–2. – Bon., Cur., Ar.

WAGENAAR HUMMELINCK, P., 1952. Islote Aves, een vogeleiland in de Caraïbische Zee. *West-Indische Gids 33*, p. 23–34, 8 figs., 6 of which on 3 pls.

WAGENAAR HUMMELINCK, P., 1953, Description of new localities. *Stud. 4*, p. 1–108, fig. 1–25, pl. 1–8.

WAGENAAR HUMMELINCK, P., 1955. Caribbean tiger beetles of the genus Megacephala. *Stud. 6*, p. 89–125, fig. 2–22, pl. 6–9. – St. M., Test, Marg., Cubagua, Kl. Bon., Bon., Cur., Ar.

WAGENAAR HUMMELINCK, P., 1977. Marine localities. *Stud. 51*, p. 1–68, pl. 1–55.

WAGENAAR HUMMELINCK, P., 1979. *De grotten van de Nederlandse Antillen. Caves of the Netherlands Antilles.* Publ. Found. Sci. Res. in Surinam and Neth. Ant. *97*, Utrecht, 176 pp., 148 figs. – Cave habitats s. n. in Anguilla, St. Martin, Barbuda, Bonaire, Curaçao and Aruba.

WAGENAAR HUMMELINCK, P., 1980. Caribbean land molluscs : Cerion in the Cayman Islands. *Stud. 61*, p. 1–67, fig. 1–24, pl. 1–18 – Gr. Cayman, L. Cayman, Cayman Brac.

WAGENAAR HUMMELINCK, P. & ROOS, P. J., 1969. Een natuurwetenschappelijk onderzoek gericht op het behoud van het Lac op Bonaire. (A scientific survey of Lac). *Nieuwe West-Indische Gids 47*, p. 1–28, 55 figs. excl. (Uitg. Werkgroep N. A. *18* .)

WEBER, NEAL A., 1948. Ants from the Leeward Group and some other Caribbean localities. *Stud. 3*, p. 78–86. – St. Th., Saba, St. E., St. K., Test., Frailes, Marg., Coche, Orch., Roques, Aves, Bon., Cur., Ar., Goaj., Ven., Sur.

WESENBERG-LUND, ELISE , 1958. Lesser Antillean polychaetes, chiefly from brackish water. *Stud. 8*, 1–41, fig. 1–15. – St. M., St. B., Nevis, Trin., Bon., Cur., Ar.

WESTERMANN, J. H. & KIEL, H., 1961 (1962). *The geology of Saba and St. Eustatius.* Publ. Found. Sci. Res. in Surinam and Neth. Ant. *24*, Utrecht, 175 pp., 11 figs., 33 pls. excl., 5 folding maps.

WESTERMANN, J. H. & ZONNEVELD, J. I. S., 1956. *Photo-geological observations and land capability & land use survey of the island of Bonaire.* Meded. Kon. Inst. Tropen Amsterdam *123*, Afd. Trop. Prod. *47*, 133 pp., 61 phot. on 35 pls. & 3 folding maps excl.

WILLMANN, C., 1933. Trimalaconothrus pilipes, eine neue Oribatide aus Westindien. *Zool. Jahrb. Syst. 64*, p. 447–452, 5 figs. – Bonaire.

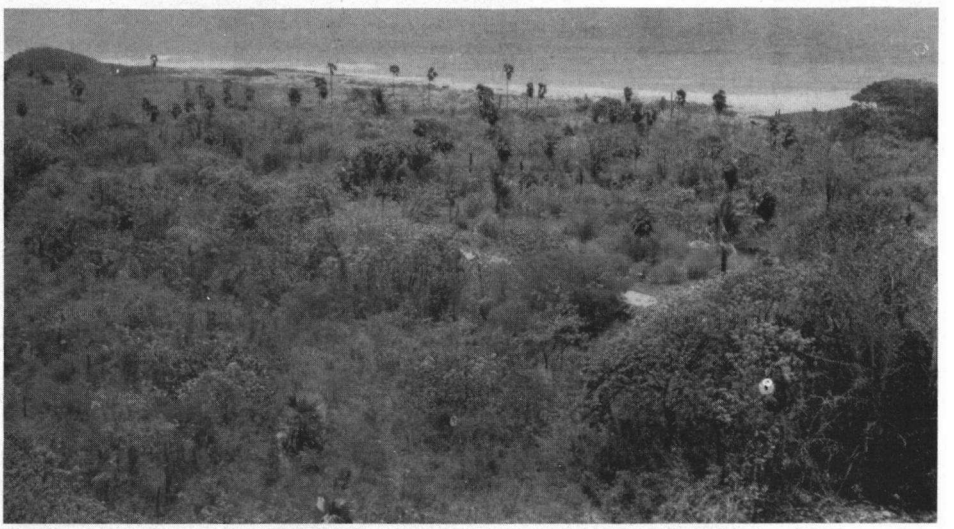
WYGODZINSKY, P., 1959. Thysanura and Machilida of the Lesser Antilles and northern South America. *Stud. 9*, p. 28–49, fig. 1–72. – St. Th., St. J., St. M., St. K., Barbuda, Ant., Trin., Test., Frailes, Cubagua, Marg., Herm., Blanq., Orch., Roques, Aves, Bon., Kl. Cur., Cur., Ar., Goaj., Par., Ven.

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. – Margarita, Kl. Bon., Cur., Ar., Goaj., Par.; Sur.

Ia. Semi-cultivated limestone area near the Light Tower of West Bay, northwestern tip of Grand Cayman. (Sta. *955*; May 1973)

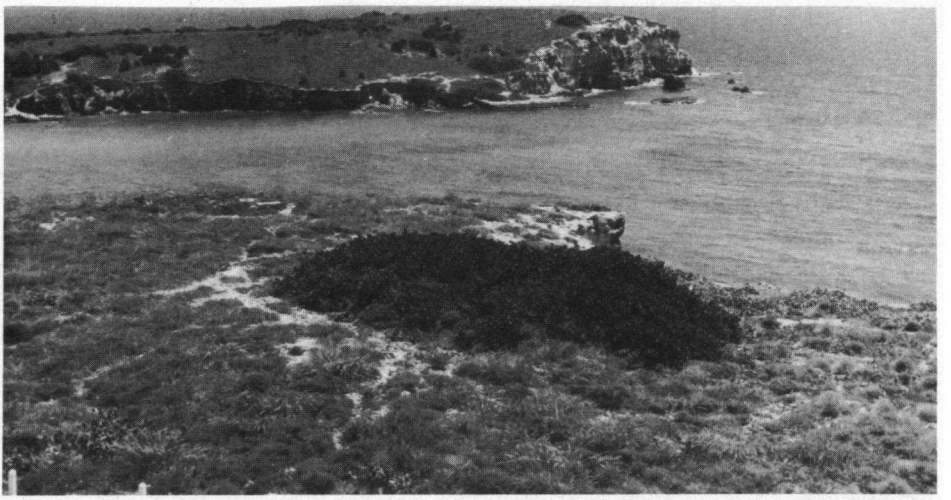
Ib. Fresh-water ditch north of Red Bay, after rains connected with the drainage of the brackish mangrove swamps of southwestern Grand Cayman. (Sta. *981*; May 1973)

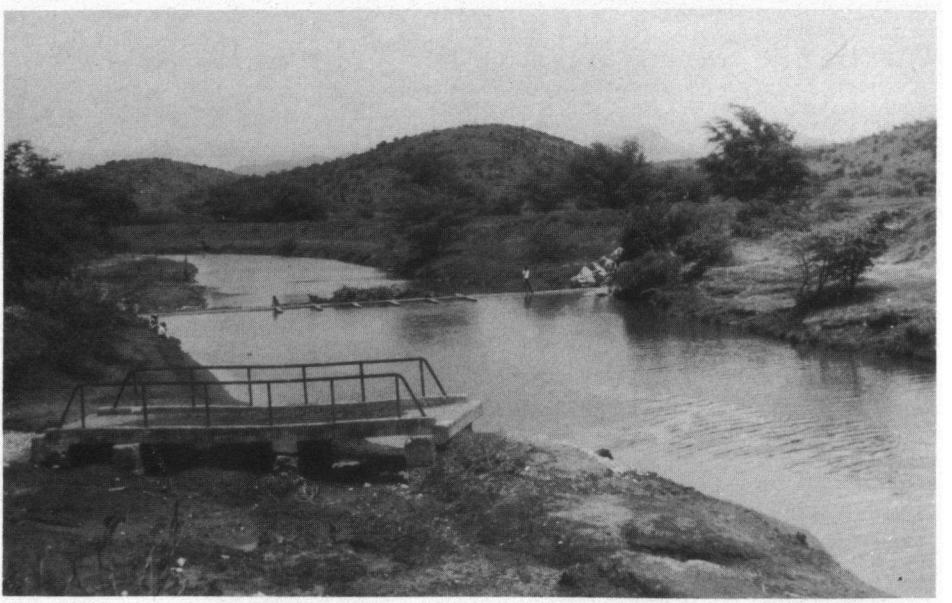
IIa. Partially cleared land with scattered trees in southwestern Grand Cayman (near Sta. *959*; May 1973)
IIb. Abandoned coconut grove on the sandy key of Owen Island, bordering Little Cayman's South Sound; its bottom densely covered with *Ambrosia* and other herbs. (Sta. *990*; June 1973)



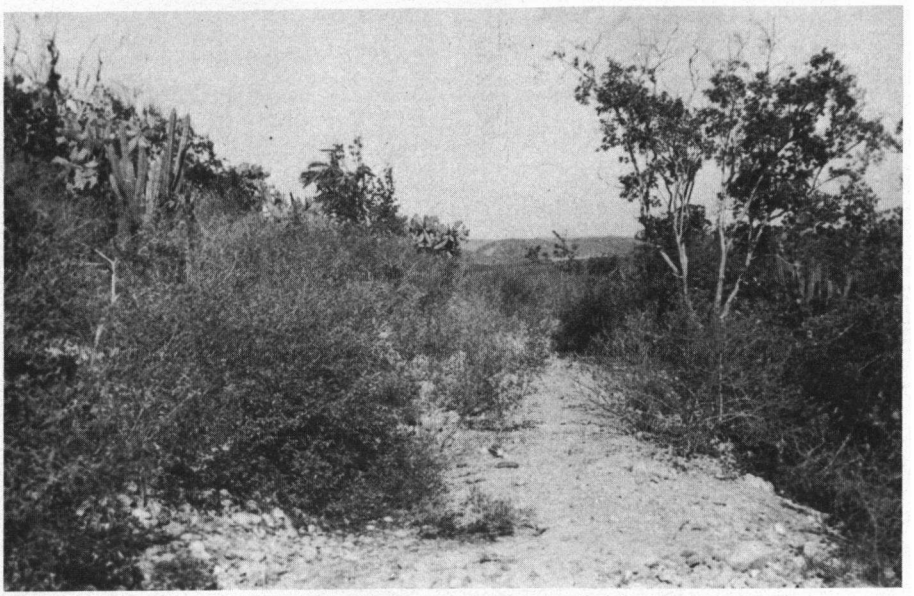
IIIa. Southern shore of Cayman Brac, with dry scrub and scattered palms, as seen from the limestone bluff near Jennifer Bay. (cf.Sta.*994*; May 1973)

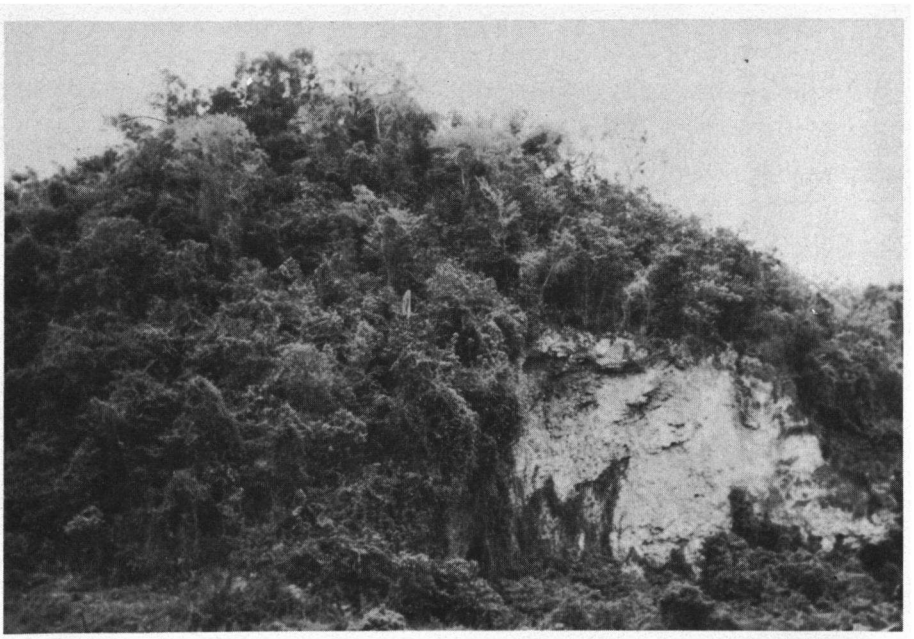
IIIb. Wind-shaven shrubs and trees at the base of the limestone bluff of Pollard Bay, southwestern Cayman Brac. The road along the south coast ends at this grassy plot between bushes of *Coccoloba uvifera*. (Sta. *992*; May 1973)



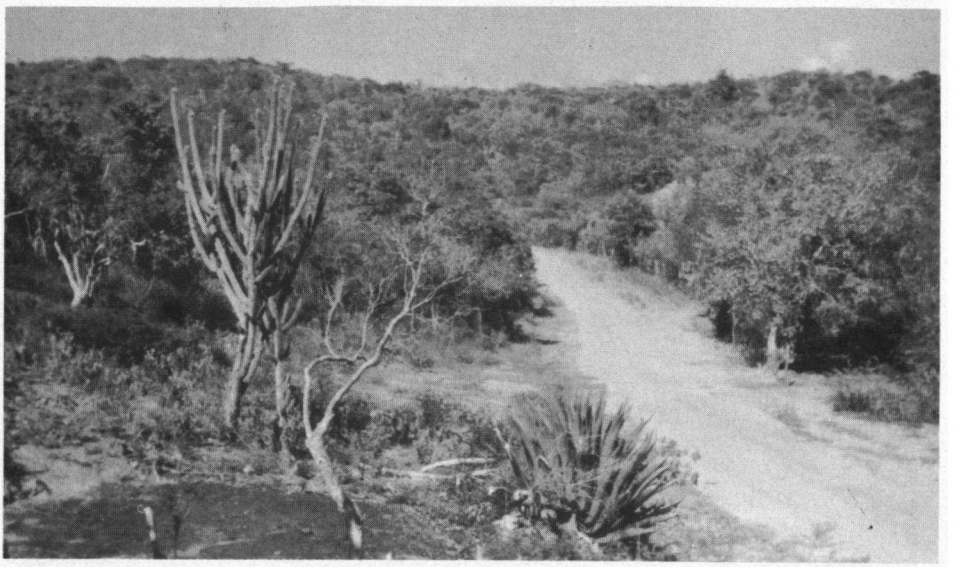


IVa. The semi-arid wind-beaten limestone coast of the southwestern tip of Puerto Rico, as seen from the light tower of Cabo Rojo. (Sta. *696*; Sep. 1963)
IVb. Floodgate of the drainage of Laguna Guánica, southwestern Puerto Rico. (Sta. *708*; Sep. 1963)

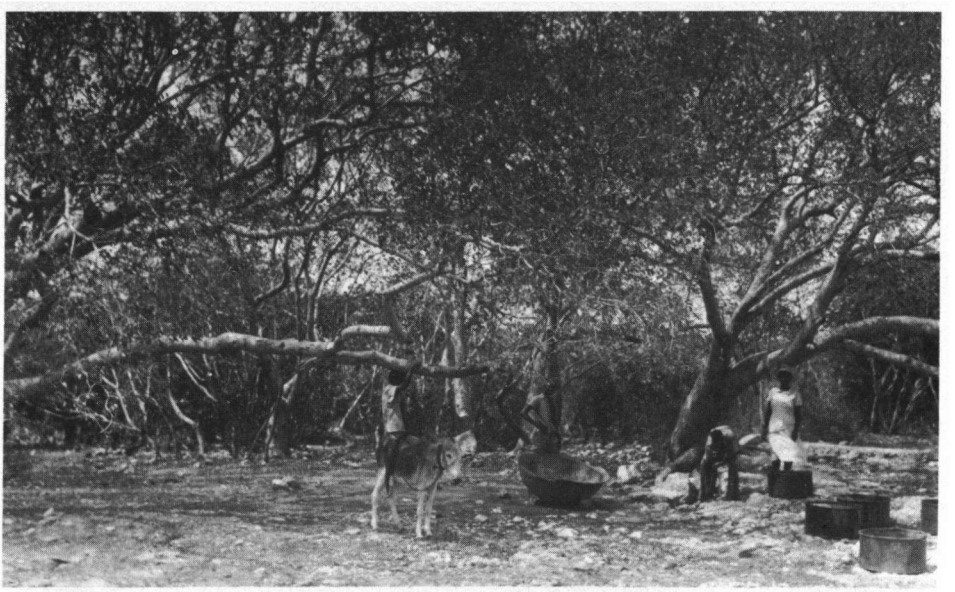




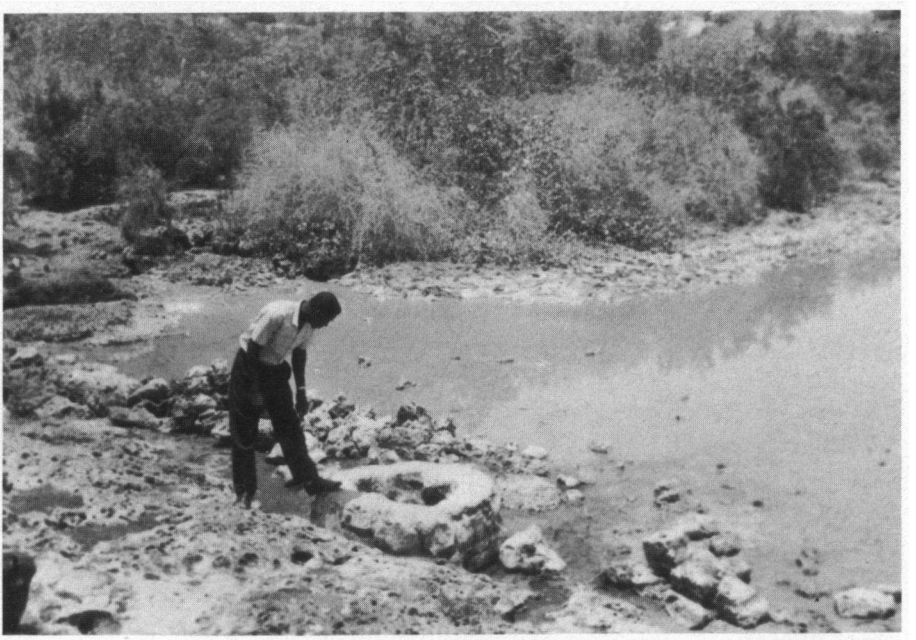
Va. Central part of Isla Magueyes, opposite La Parguera, situated in the arid southwestern part of Puerto Rico. (Sta. *032*; Sep. 1973; cf. *700*)
Vb. Abandoned quarry in an isolated steep-sided limestone hill (*mogote*) covered with ferns and shrubs, near Loiza, northeastern Puerto Rico. (Sta. *037*; May 1973)



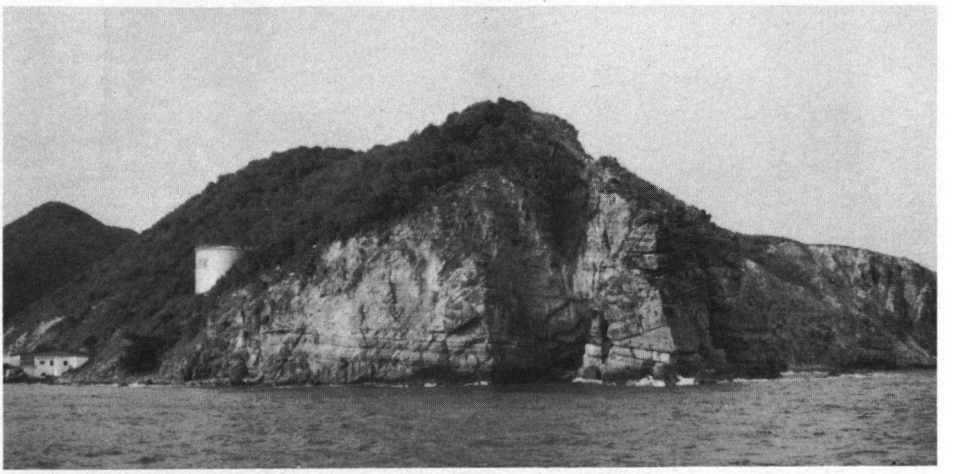
VIa. Landscape with xerophytic shrubs, cacti and agave at Bolongo Bay, St. Thomas. (Sta. *621A*; Apr. 1973)
VIb. Well-wooded stream valley of Canaän, St.Croix. (Sta. *616*; June 1955)



VIIa. Eastcoast of Dog Island, west of Anguilla, showing a saltpond behind a low sandy wall with Mancheneel trees, bordered by beachrock. (cf.Sta. *487*, June 1949; cf. also *1147*)
VIIb. Forest Point Saltwell, near the southeast coast of Anguilla: a narrow hole of almost 4 m deep, giving access to brackish cavern water which is used for drinking and washing, shaded by Mancheneel trees. (Sta. *482*, *543*; June 1949)

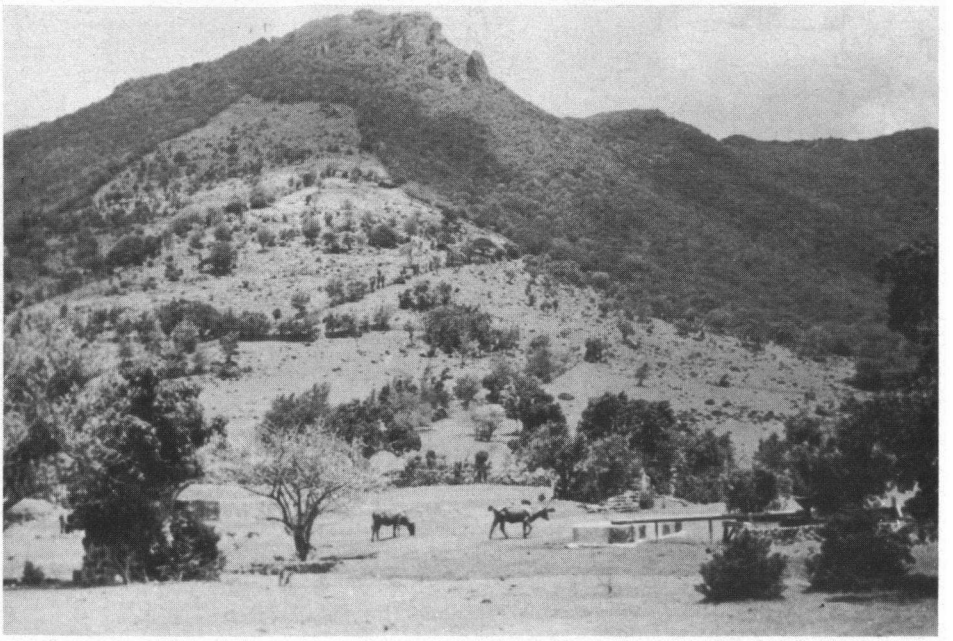


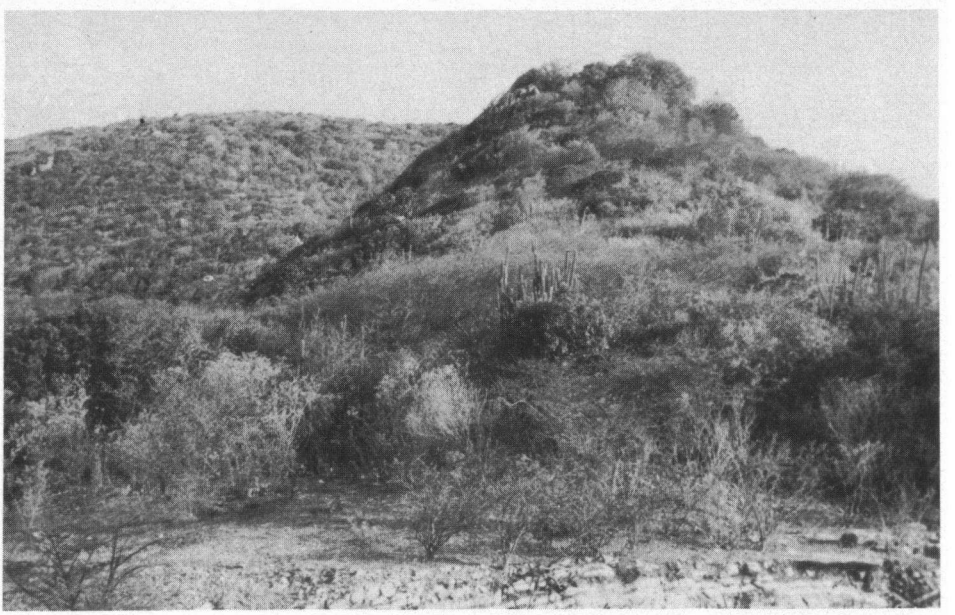
VIIIa. Northern shore of the salty Badcox Pond, situated in a depression of central Anguilla, fed by several brackish wells or seepages (Sta. *055*; July 1973).
VIIIb. Looking into one of the sources of Badcox Pond (also in center of preceding picture) which has a firm calcareous rim. (Sta. *055A*; July 1973)



IXa. Point Blanche (132 m), the most southern point of St.Martin covered with shrubs and small trees with bromeliads at its leeside, almost bare on its eastern slope facing the trade wind (cf. Sta. *458*; July 1973)

IXb. Low vegetation with *Cephalocereus*, exposed to the trade wind on top of Point Blanche, looking west towards Little Bay. (Sta. *458Aa*; June 1973)



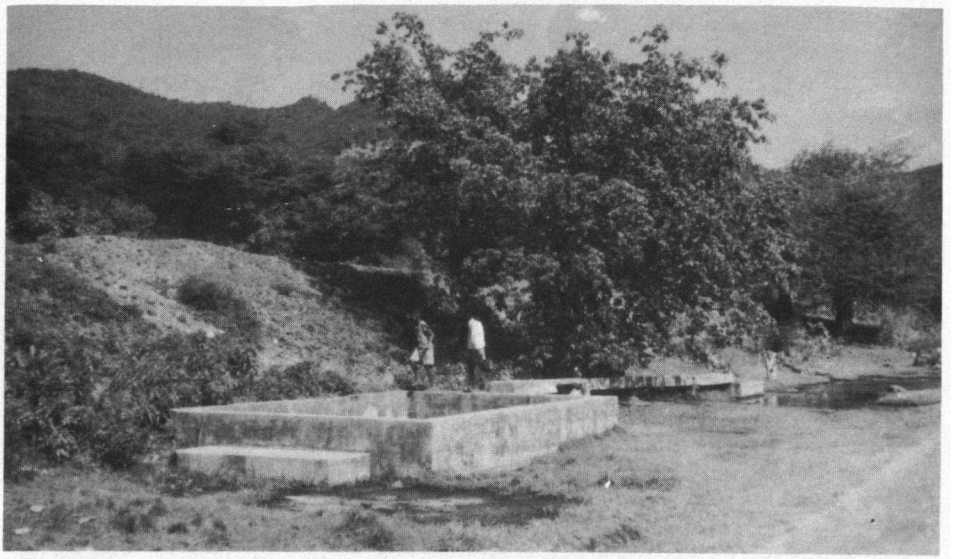


Xa. Sentry Hill (341 m) as seen from Cul-de-Sac valley; its windward slope has been cleared almost up to the top. The soil of the pastures of Rockland in the foreground contains fresh ground water. (cf. Sta. *538, 539*; June 1973)

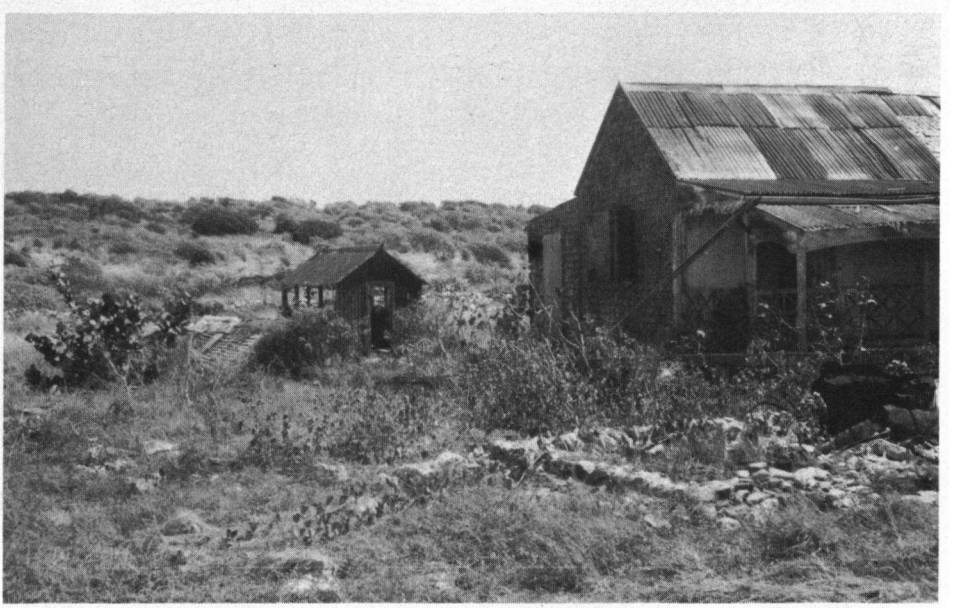
Xb. Guana Bay Ridge (130–150 m), exposed to the eastern trade wind and therefore covered by a xerophytic vegetation, thorny Mimosaceae, *Croton flavens* and Cactaceae dominating; looking south towards a hill capped by Point Blanche Formation limestones. (Sta. *072*; July 1973)

XIa. Temporary fresh-water Slob of St. Peter, Cul-de-Sac, St. Martin, looking east. (Sta. *467, 537*; May 1949)

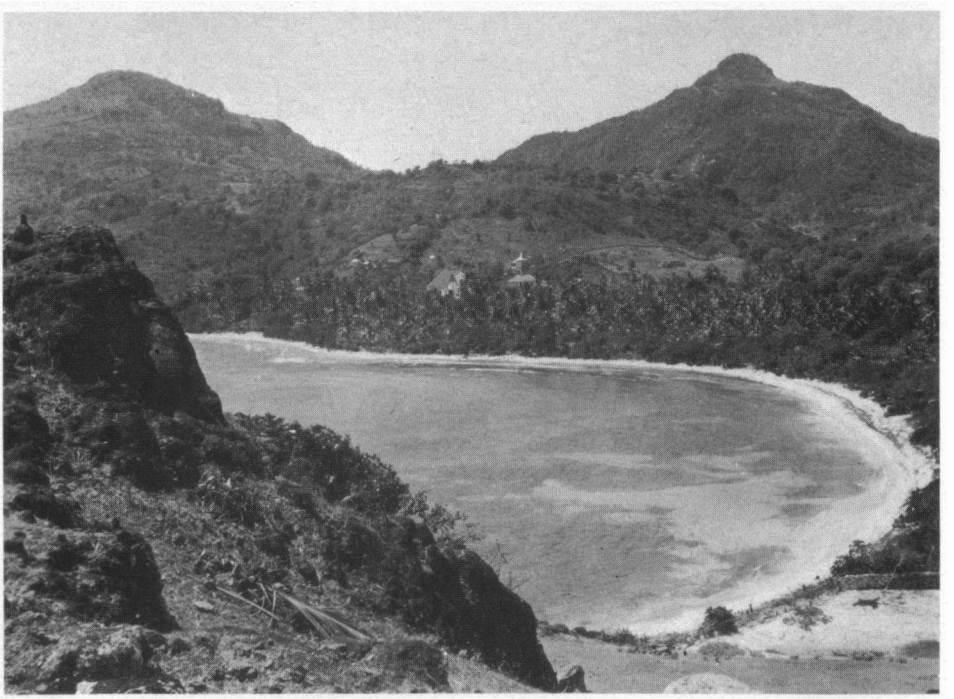
XIb. Devils Hole Swamp: a permanent saline pool showing tidal movements in the coastal limestone along Simson Bay; for the greater part covered by floating masses of pneumatophore-bearing *Avicennia* roots. Recently cleared for recreation purposes. (Sta. *542a*; July 1955)



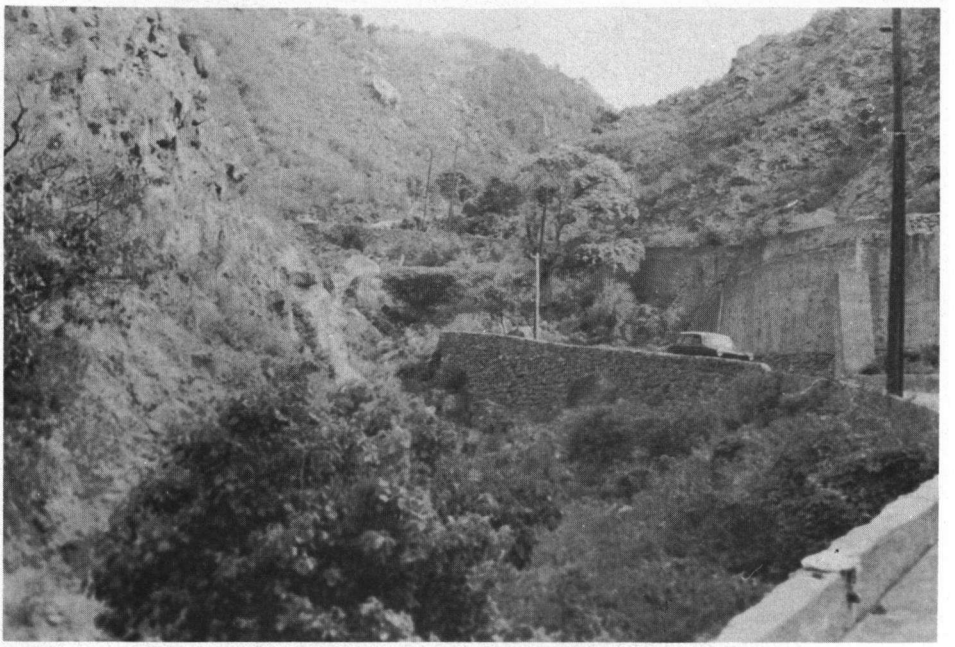
XIIa. The semi-permanent Bloomingdale Cistern, fed by brackish ground water, near the eastern shore of the Great Saltpond. (Sta. *679*; June 1955)
XIIb. A muddy pool in the Canal of Rolandus, which once was dug to prevent surface water flowing into the Great Saltpond. (Sta. *096*, cf. *531*; June 1973)

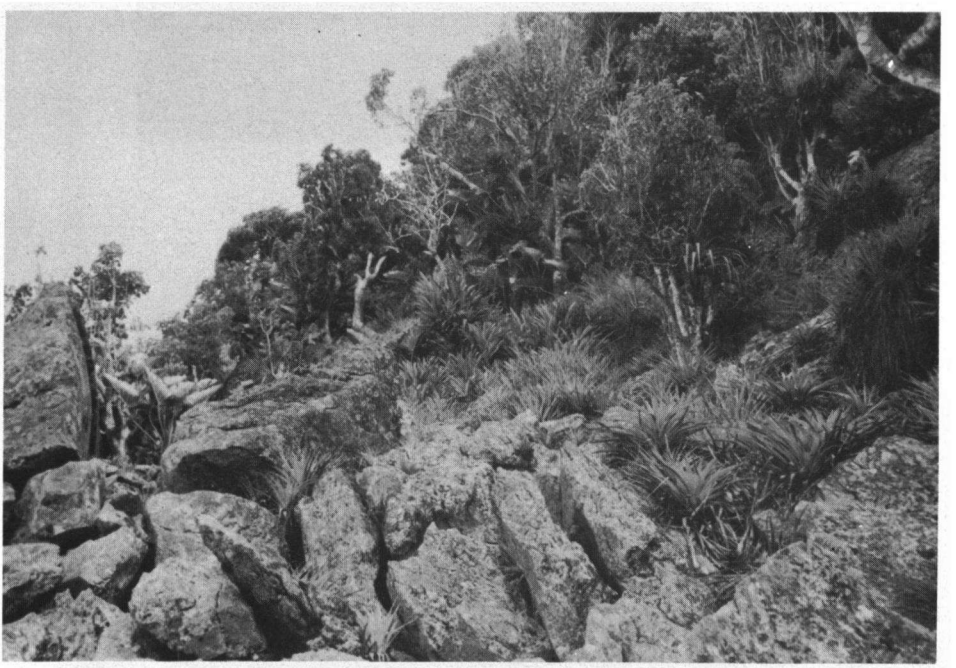


XIIIa. Tintamarre's Baie Blanche with its northern limestone bluff sparsely covered with small trees, thorny shrubs and cacti. (Sta. *454*, *455*; July 1973)
XIIIb. Semi-arid landscape of western Tintamarre, showing ruins of dwellings once occupied by an inter-island flight service base. (July 1973)

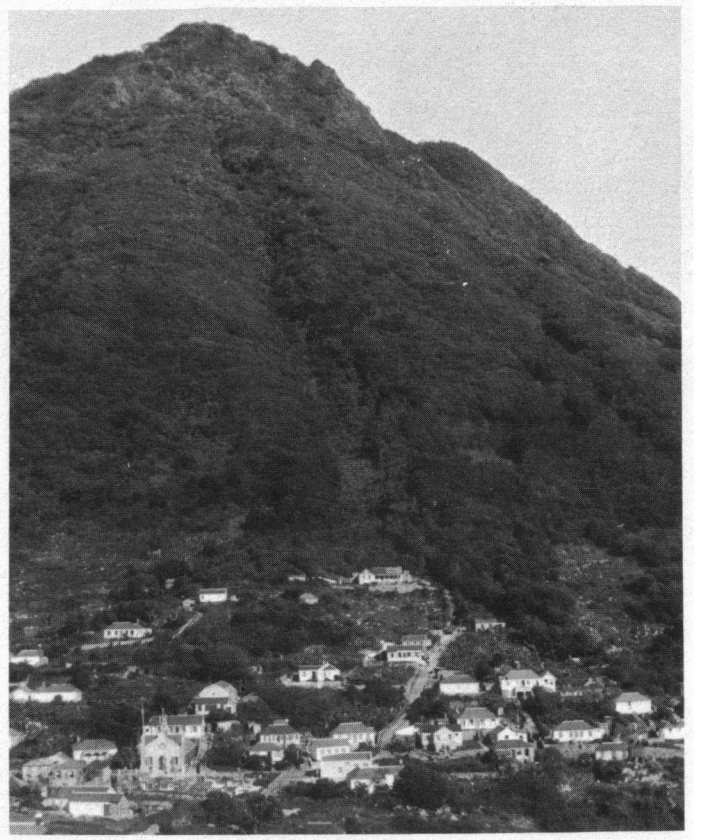


XIVa. Isolated limestone hill north of Anse des Cayes, Saint-Barthélemy. (Sta. *0106*; July 1973)
XIVb. Porphiritic hill near the Baie de Lorient. The hills in the background have an altitude of 182 (left) and 274 m. (Sta. *448A*; June 1949)





XVa. Dry gully along the road to The Bottom, at about 150 m. (Sta. *298D*; July 1973)
XVb. Andesite slabs near the summit of Saba's Great Hill, at about 370 m, with Bromeliaceae and Araceae in the fissures of the rock. (Sta. *0110*; July 1973)



XVIa. Eastern slope of The Mountain (= Mount Scenery, 870 m) and western part of Windwardside, Saba. (Oct. 1963)

XVIb. Tree-fern brake on the southern slope of The Mountain, at about 650 m, showing conspicuous *Cyathea* and Araceae. (Sta. *0112*; July 1973)

XVIIa. Bananas planted on the bottom of the crater of The Quill (about 280 m) after cutting the original vegetation. (Sta. *427A*; July 1973)
XVIIb. Evergreen forest with high trees near the bottom of the crater of The Quill, at about 300 m. (Sta. *427*; July 1949)

XVIIIa. The New Well, near the entrance of the Claes Gut: the only well on Statia which yielded fresh water. (Sta. *508a*; Oct. 1963)

XVIIb. The lush vegetation of Claes Gut was strikingly in contrast to the sparse plant cover of the coastal cliffs, consisting also of volcanic agglomerates and tuffs. (July 1973)

XIXa. Sugar Loaf (73 m), part of White Wall limestone beds resting in a sloping position on the southern slope of The Quill, as seen from the Fortress De Windt. (cf. Sta. *0119*; July 1973)
XIXb. Upturned limestone slabs analogous to White Wall Formation, and surrounded by sugar-cane fields, southeast of Brimstone Hill, Saint Christopher. (Sta. *422, 605*; June 1949)

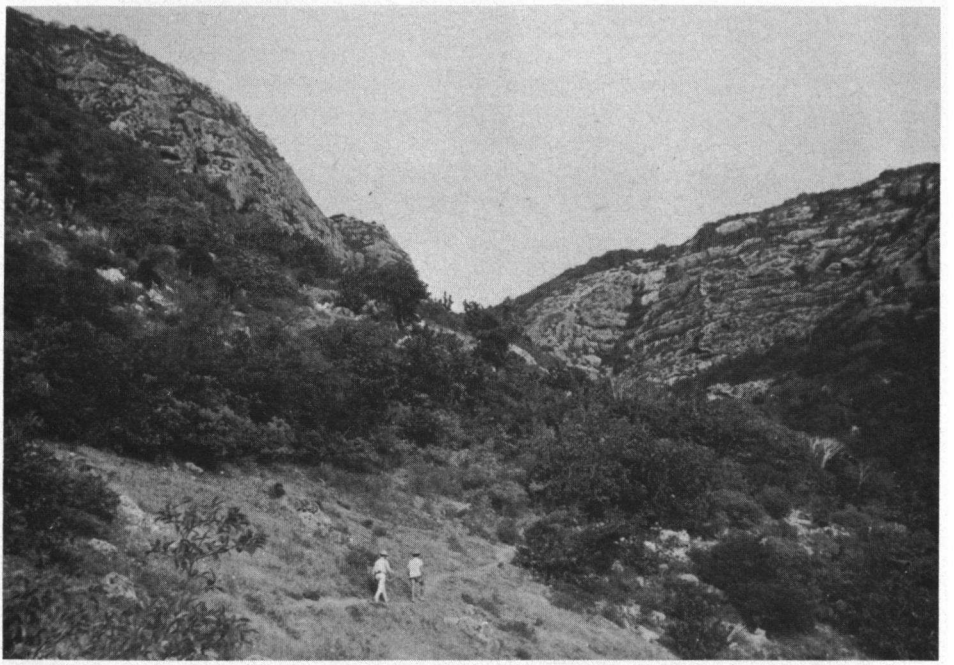
XXa. Cattle Pond near Frigate Bay: a brackish pool in the semi-arid part of St. Kitts. (Sta. *677*; July 1955)
XXb. Jones River near Newcastle: one of Nevis' fresh-water rivulets. (Sta. *501*; June 1949)

XXIa. The old gate to River Quarter, south of Codrington Village, in the classical fence separating Barbuda's southern "cattle area" (foreground) from the northern "agricultural area". (July 1955)

XXIb. Low Pond, northwest of Codrington Village: a very brackish cattle pond, next to a small agricultural plot along the mangrove-lined shore of Great Lagoon. (Sta. *674a*; July 1967)

XXIIa. Bull Hole: a very shallow depression of the limestone flat of southeastern Barbuda. (Sta. *667*; July 1955)

XXIIb. Portsmouth River: an often fast flowing streamlet in Dominica, with andesite boulders. (Sta. *847*; July 1967)



XXIIIa. Amidst the old limestone hills of La Désirade. (near Sta. *739* and *740*; Jan. 1964)
XXIIIb. Children drawing water from the Grande Source de Baie Mahault, La Désirade: a man-built well, overflowing into a concrete trough. (Sta. *741*; Jan. 1964)

XXIVa. Source d'Audouin, near Moule: a fresh-water spring with *Pterocarpus*-lined pools in the calcareous eastern part of Guadeloupe. (Sta. *728*; Jan. 1964)

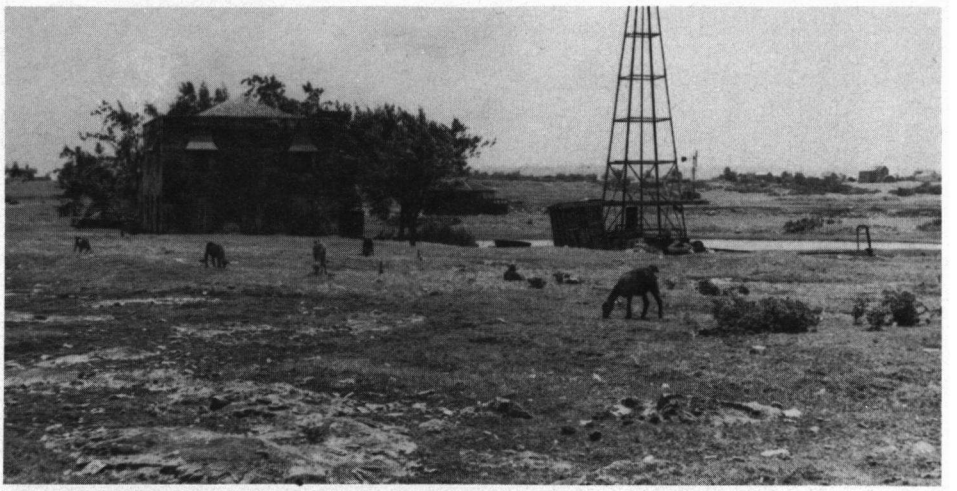
XXIVb. Mangles de Folle Anse, south of Saint-Louis: a fresh-water swamp-forest of *Pterocarpus* in Marie-Galante; Father BARBOTIN using the dip net. (Sta. *755*; Jan. 1964)

XXVa. Rivière du Vieux Fort dammed at its mouth, forming a brackish-water swamp bordered by mangroves, Marie-Galante. (Sta. *751*; Jan. 1964)
XXVb. Mare Médecinié: a muddy sink-hole amidst sugar-cane fields in Marie-Galante, with a dense vegetation of *Chara*. (Sta. *753*; Jan. 1964)

XXVIa. Mare près l'Étang Noire: a muddy sink-hole on Marie-Galante, crowded with Characeae and phanerogams. (Sta. *750*; Jan. 1964)
XXVIb. Greathead River, south of Kingston, St. Vincent, rapidly flowing, with boulders of andesite (Sta. *858*; July 1967)

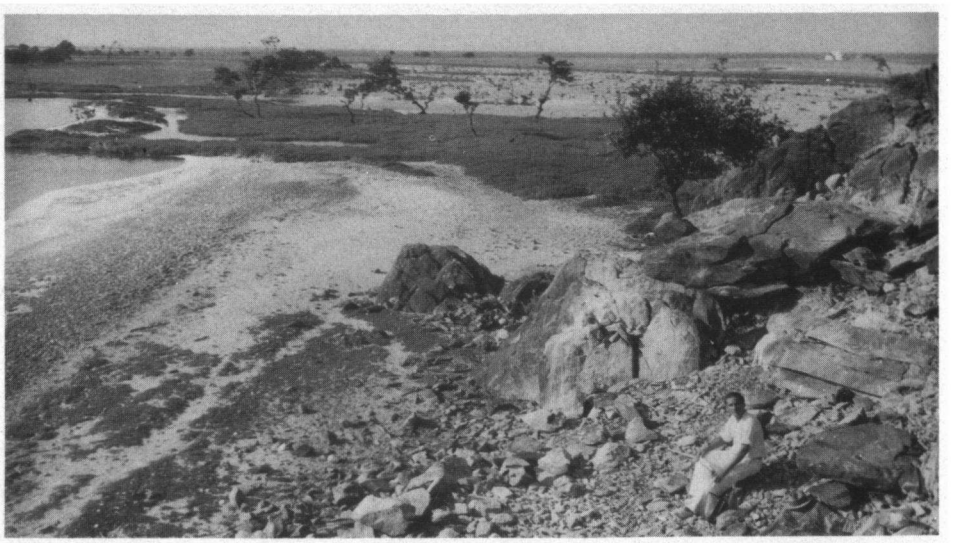
XXVIIa. Sedge Pond, St. Andrew: a depression in the limestone landscape of Barbados, used as a dump for all kinds of plant material. (Sta. *782*; Feb. 1964)
XXVIIb. Porter's Wood near Holetown: Mahogany trees with almost no undergrowth; a habitat poor in plant and animal species. (Sta. *779*; Feb. 1964)

XXVIIIa. Bawden's River: a rapidply flowing streamlet amidst the sugar-cane fields of Swann Factory, Barbados. (Sta. *783*; Feb. 1964)
XXVIIIb. Joe's River: a rather rapidly flowing streamlet, at the dam-site. (Sta. *784*; Feb. 1964)



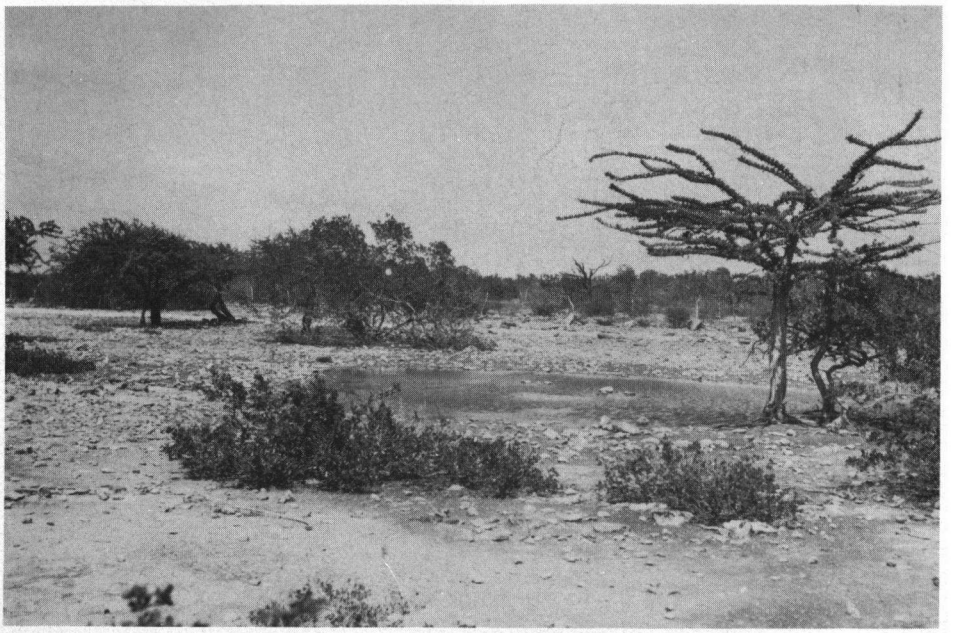
XXIXa. Cole's Pasture: a limestone flat in southeastern Barbados, only a few hundred meters from the shore, swampy after rains, with shallow fresh-water ponds. (Sta. *867*, cf. *868*; July 1967)

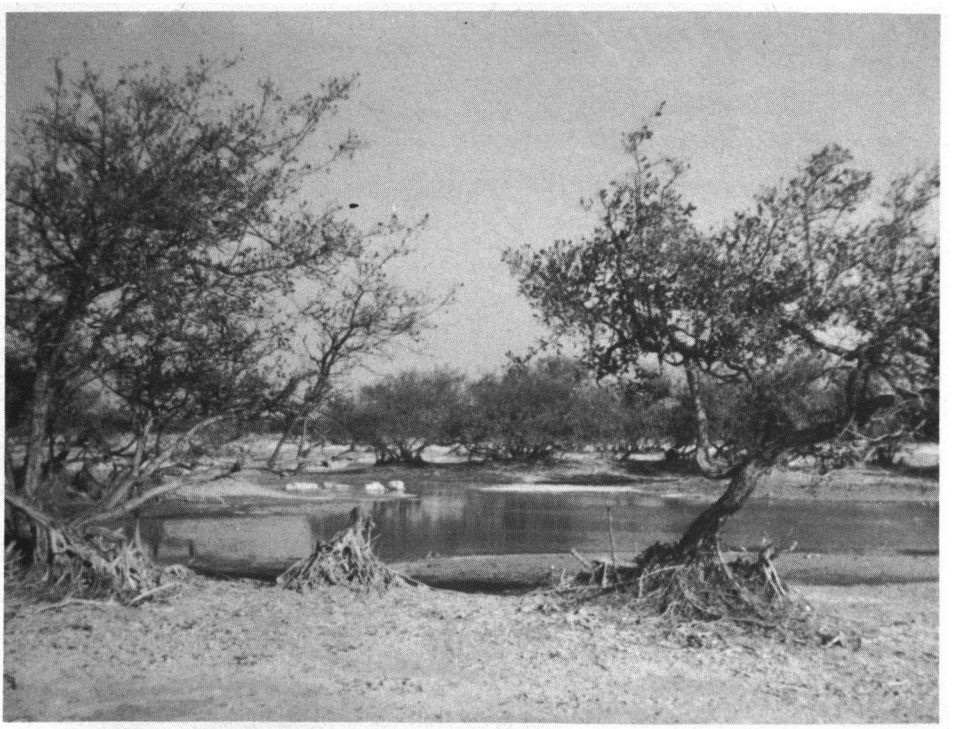
XXIXb. Wiltshire Spring at Marley Vale: cavern water flowing from a small source (behind a Mancheneel) near the wind-beaten shore of southeastern Barbados. (Sta. *869*; July 1967)



XXXa. Xerophytic vegetation on a limestone terrace near El Cuence, north of Punta Carnero, Margarita, with dominating *Opuntia caribea* and *Cephalocereus lanuginosus*. (Sta. *799*; Jan. 1964)

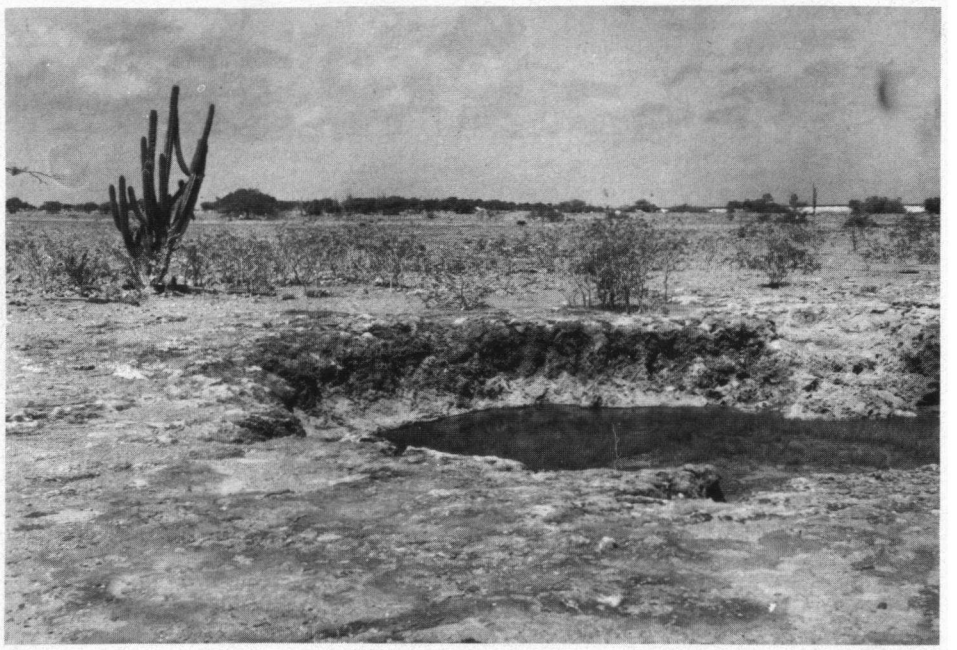
XXXb. Pozo de la Cabecera, a brackish pool between granitic rocks of the most eastern part of El Gran Roque. A felled mangrove forest in the background. (Sta. *42*; July 1936)





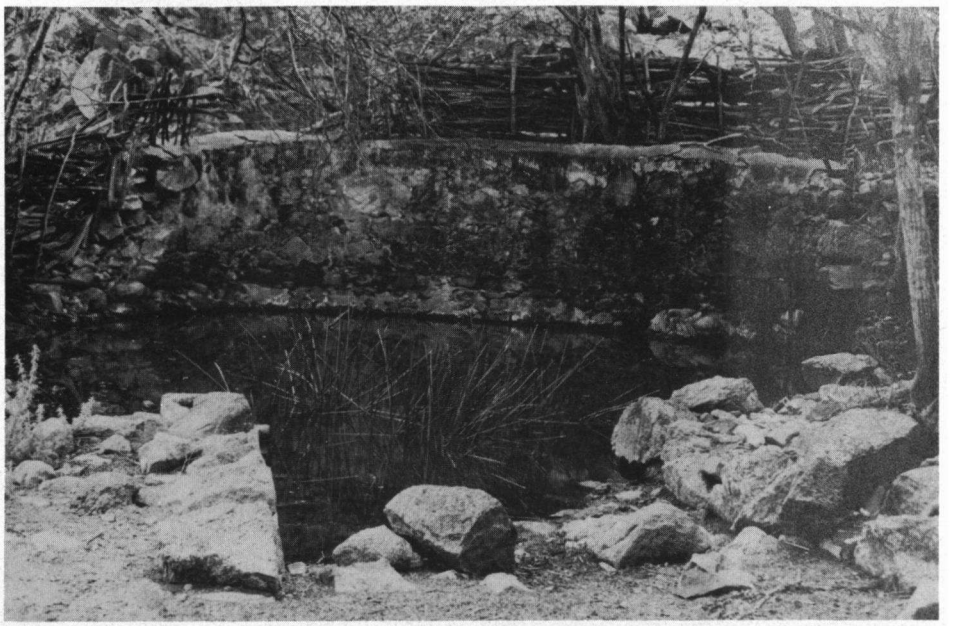
XXXIa. A short-living sheet of fresh water in a shallow depression of the Lower Terrace, northeast of Punt Vierkant, southern Bonaire, surrounded by scattered *Conocarpus erecta* and a single *Crescentia cujete*. (Sta. *381*; Sep. 1948)

XXXIb. One of the several saline pools left after the drying up of the Sabana south of Kralendijk, showing *Conocarpus* roots exposed by wind-erosion during dry periods. (Sta. *628a*; Aug. 1955)



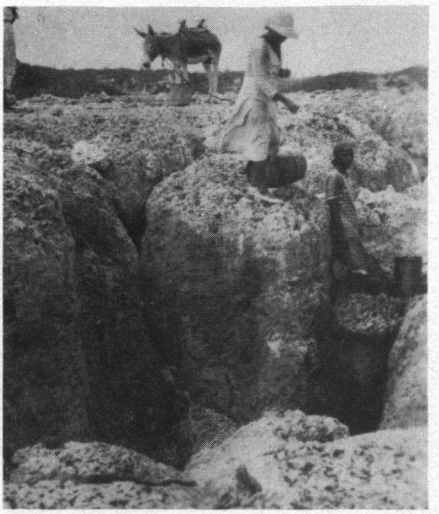
XXXIIa. Baca Grandi: a sink-hole in the Lower Terrace south of Kralendijk, with almost fresh water after rains, but otherwise distinctly brackish and often containing much *Chara* during the greater part of the year. (Sta. *379a*; Sep. 1948)

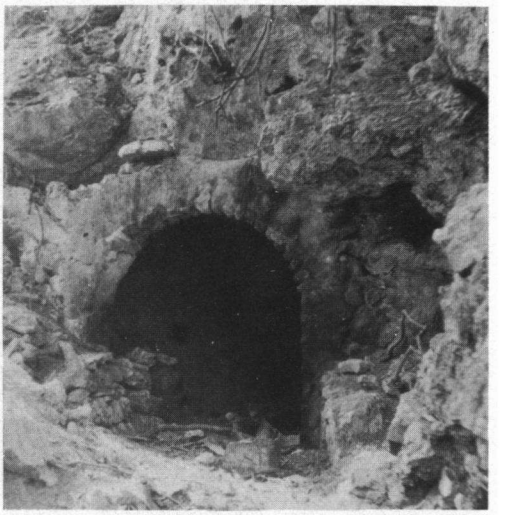
XXXIIb. Pos Baca Grandi, when almost dry and crowded with *Heleocharis*, a few puddles of rainwater in the foreground. (Sta. *379j, A;* March 1970). [This locality has not changed much in 50 years; cf. BAKER 1924, p. 32, Bc1, fig. 15.]

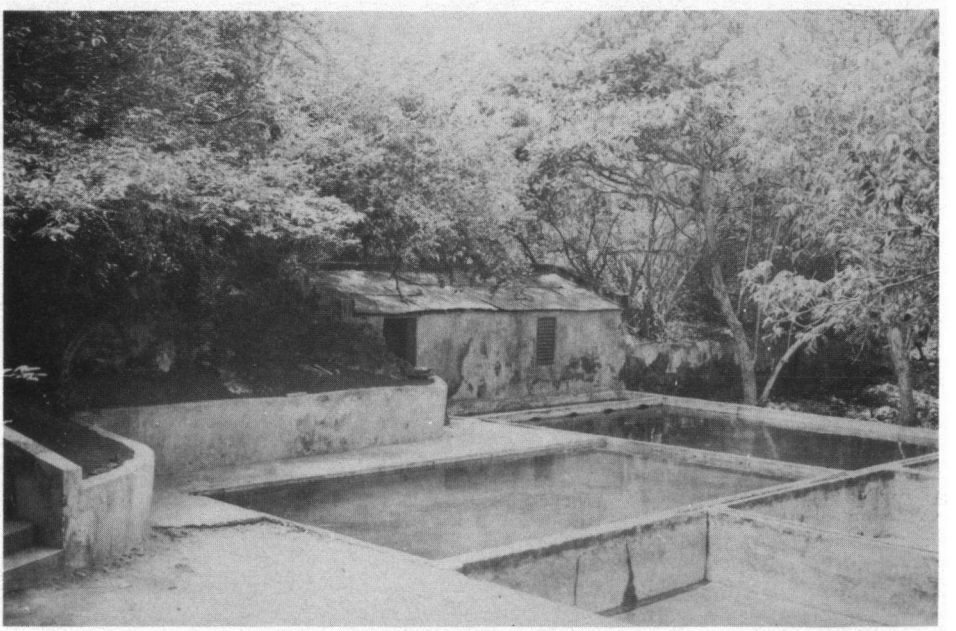


XXXIIIa. Put Bronswinkel: the only place in nortwestern Bonaire with a perennial source of fresh water. Some sixty years ago this overflowing well – fed by a small spring – was still part of a "hoʃe", but now – since this fruit garden has been abandoned – it is of significance only for bird-life. (Sta. *44e*; March 1970)

XXXIIIb. Pos di Mangle, not far from the salina of Bartol, generally contains brackish water; during dry periods it changes into a mudpool, shaded by a single *Prosopis* tree. (Sta. *898a*; March 1970)



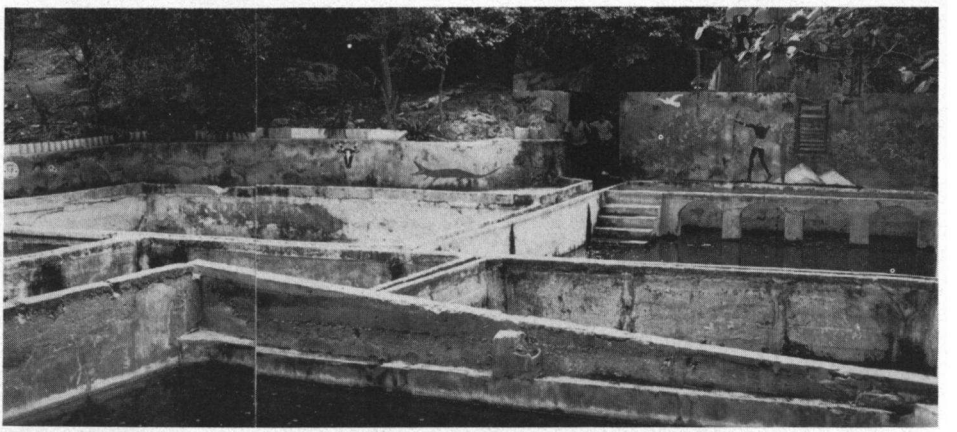




XXXIVa. A cleft in the Lower Terrace of north Bonaire, near Boca Onima, revealed potable water at about 6 m below the surface. In later years this locality, called Pos Letín, became distinctly brackish and often polluted. (Sta. *47b*; Sep. 1948)

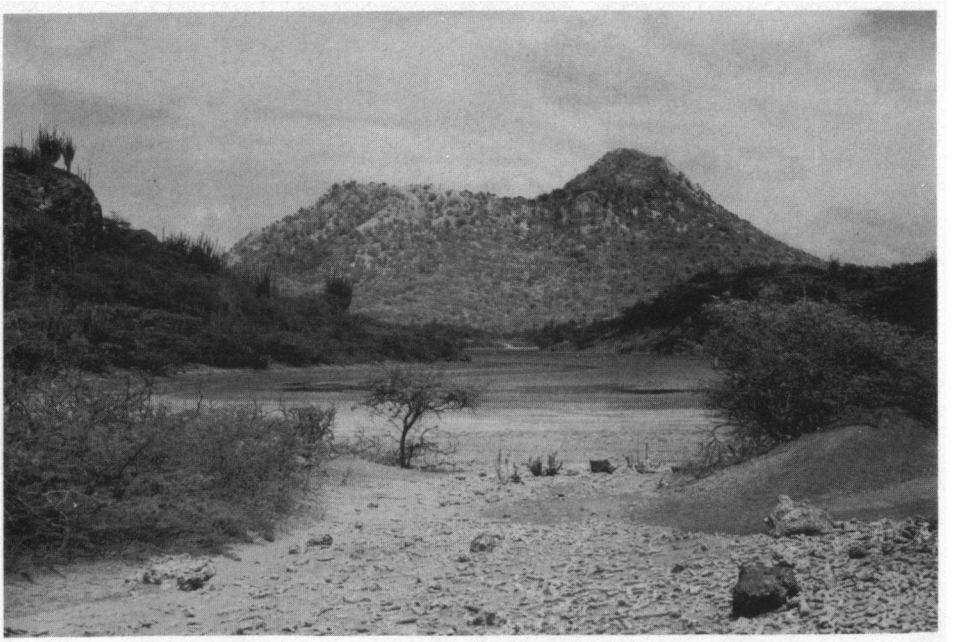
XXXIVb. Many years ago a tunnel of about 20 m long was cut into the base of the escarpment of the Higher Terrace to improve yield and quality of a spring of fresh water, irrigating the "hofje" of Fontein. (Sta. *48g*; Sep. 1967)

XXXIVc. Thanks to its spring of fresh water – rarely exceeding 1 m^3/h – Hofje Fontein became a well-known place of recreation. The water was conducted into a bath and a number of cisterns. (Sta. *48C*; Sep. 1948)



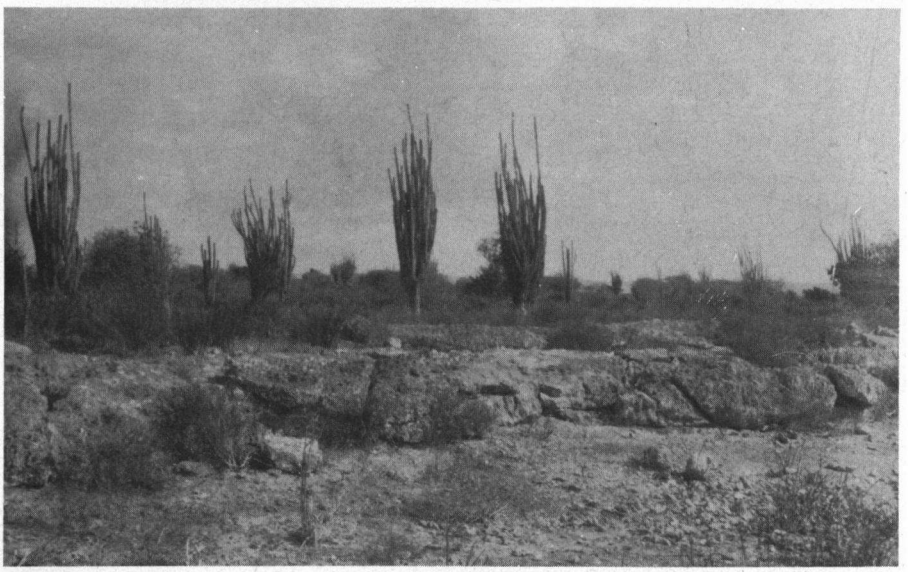
XXXVa. When, not so long ago, Hofje Fontein was not kept up anymore, the cisterns also became neglected. On the parapet some poor paintings were made for visitors. (Sta. *48Bd*; March 1970)

XXXVb. Dos Pos, a well of several meters deep, excavated into the volcanic rock of northwestern Bonaire, became a most important source of drinking water for the village of Rincón. In later years a windmill was put up and the well was covered.
(cf. Sta. *45;* May 1930, L. W. J. VERMUNT phot.)



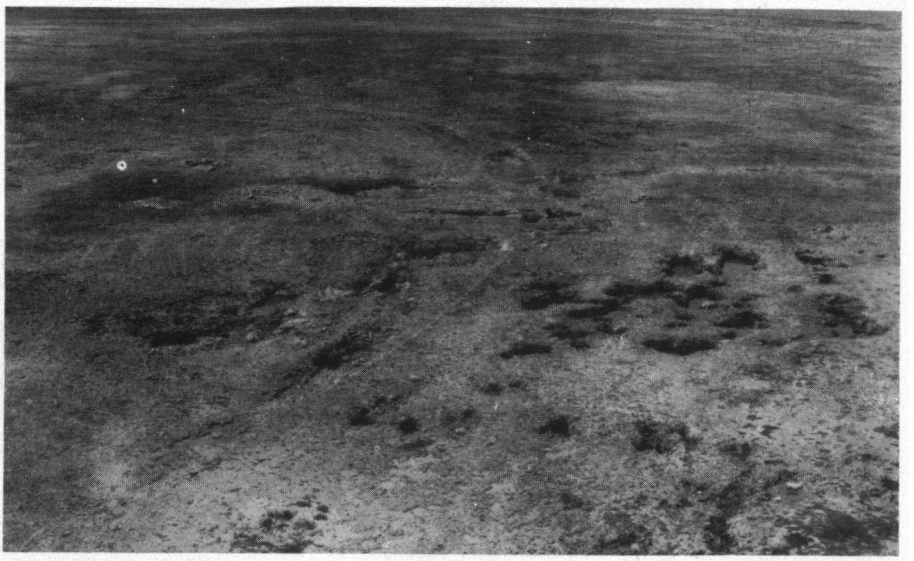
XXXVIa. Among the hills of Washington National Park an expanse of brackish water is found covering the mudflat of Salina Matijs after rains. Conspicuous specimens of *Lemaireocereus griseus* (centre) and *Cereus repandus* (left) can be observed among the scrub. (cf. Sta. *934*; March 1970)

XXXVIb. General view from the coastal cliff near Slagbaai towards the Brandaris (240 m), overlooking the mudflat of Salina Wayacá. (cf. Sta. *317*; March 1970)

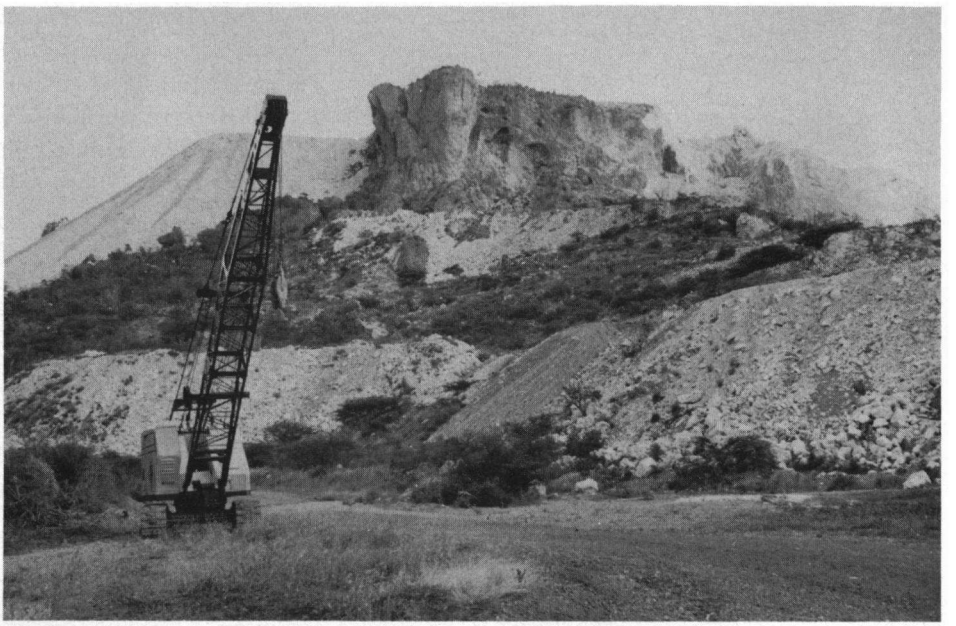


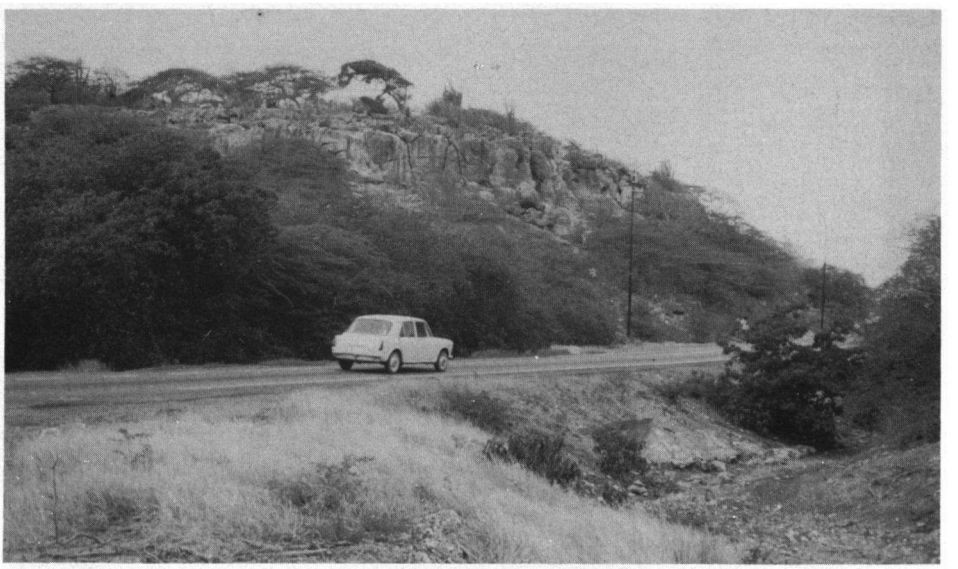
XXXVIIa. The uninhabited island of Klein Bonaire was browsed during many years, to the detriment of the more spectacular elements of the vegetation: candle cacti such as shown on the picture disappeared and a monotonous vegetattion, dominated by *Croton flavens*, remained. (Sta. *199*; May 1930)

XXXVIIb. The large trees seen in 1930 on the central part of the low limestone terrace of Little Bonaire are also phenomena of the past. (cf. Sta. *199*; May 1930)



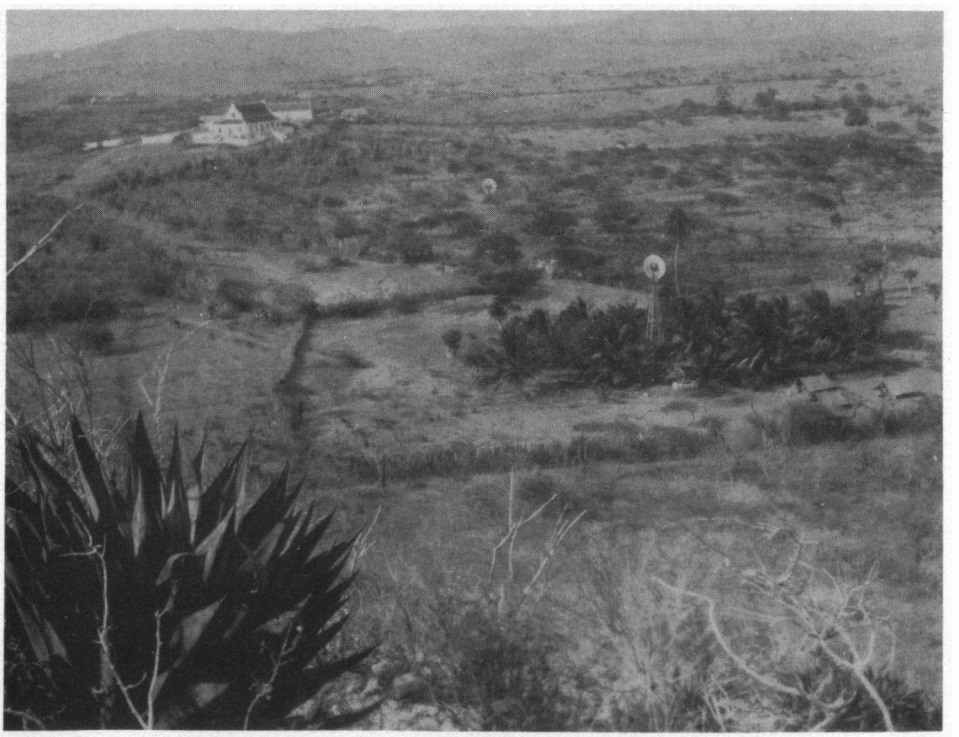
XXXVIIIa. Klein Curaçao as seen from its light tower, looking north: a low limestone terrace exploited for guano about a century ago, almost without plant cover. A number of excavated pockets are filled with water of varying salinity. (cf. Sta. *64* and *387*; Oct. 1948)
XXXVIIIb. The easternmost tip of Curaçao near the light house of Punt Kanon; a barren limestone plateau with scattered tufts of beach vegetation, fully exposed to a fierce eastern trade wind and almost continuous spray of seawater. (Sta. *945*; Feb. 1970)



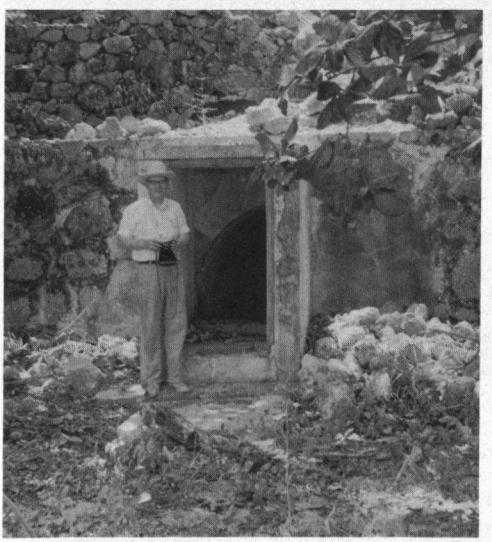


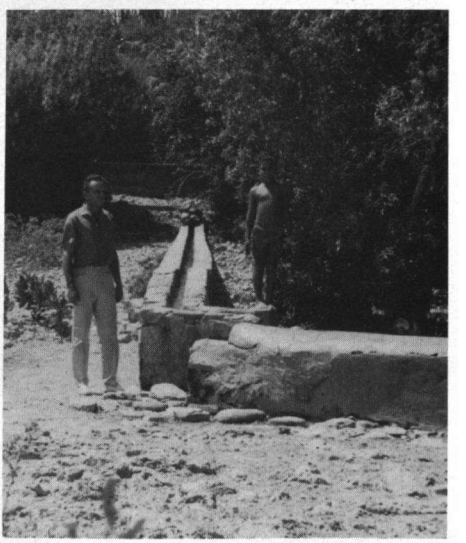
XXXIXa. The Tafelberg (Table Mountain) of Santa Barbara (190 m) was generally considered one of the most interesting areas of Curaçao, from a scientific as well as an esthetic point of view. Its high phosphate value led to the almost perfect demolition by the Mijnmaatschappij Curaçao, who stopped exploration in 1979. (cf. Sta. *206, 328*; Feb. 1970)

XXXIXb. A road leading to the Albert Plesman Airport of Hato, intersecting the belt of limestone along the north coast of Curaçao between the Seroe Bordo (left, 50 m) and the Seroe Rondo, proved to be the eastern boundary of the distribution area of the land snail *Tudora rupis hatoensis*. (Sta. *948*; cf. *947*; Feb. 1970)



XLa. The table mountain of Ronde Klip (125 m) is a conspicuous feature in the rather monotonous landscape of eastern Curaçao. (Sta. *201*; Oct. 1936)
XLb. Porto Marie, as seen from the Seroe Cabajé, looking north; in the background the country house; centre-right showing a few coconut trees surrounding a well with windmill, and a geological camp. (cf. Sta. *225*; April 1930)

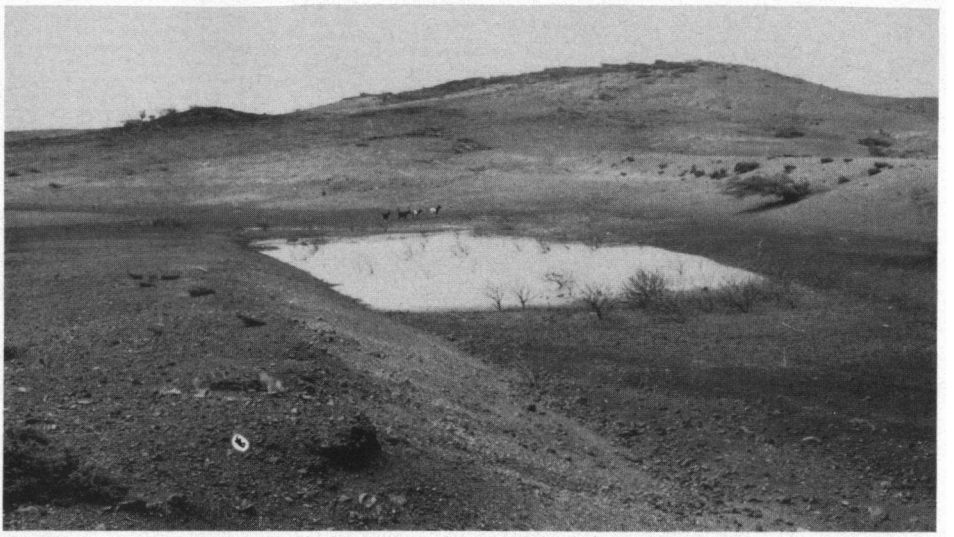




XLIa. Tanki Martha-Koosje: a semi-permanent muddy pond in the weathered shales not far from the Higher Terrace of central Curaçao. (Sta. *397*; Aug. 1955)

XLIb. The built-in well of Boca di Leeuw, with dr. W. D. BURBANCK standing at its somewhat ruinous entrance: a permanent source of fresh water from below the limestone plateau of Hato, which – together with Boca Spelonk – once made the "Hofje van Hato" a famous resort. (Sta. *72c*; Feb. 1970)

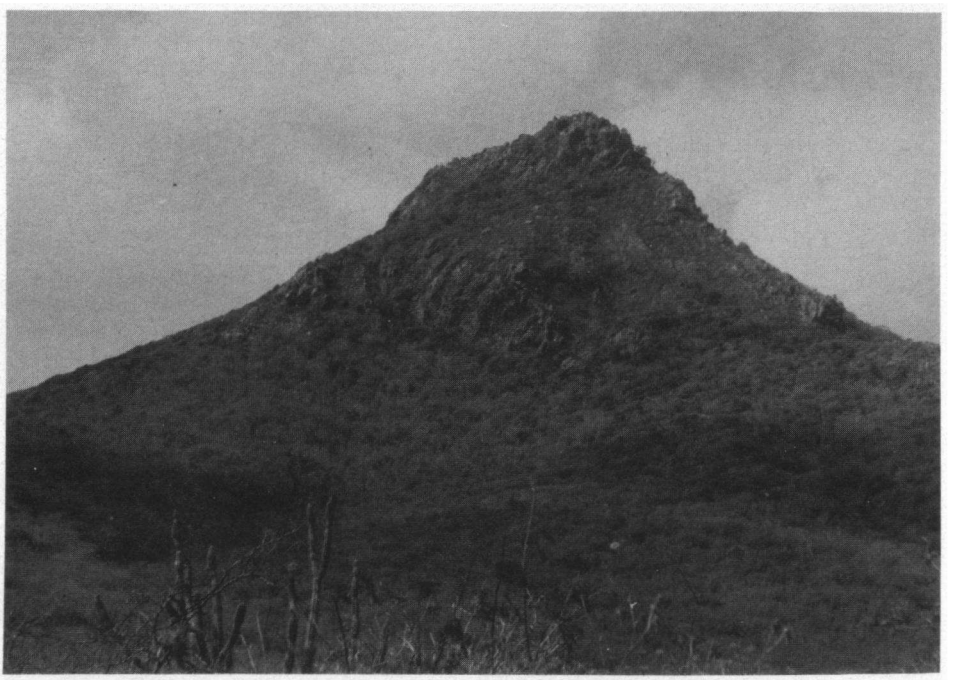
XLIc. The water of the southern spring of San Pedro is conducted by an old, cemented gutter towards a concrete trough. (Sta. *79c*; Oct. 1967)



XLIIa. Tanki di Boca Braun, west of Savonet: an ephemeral pool behind a recently constructed dam on the barren north coast of Curaçao. (Sta. *943*; March 1970)
XLIIb. Tanki di Malpays: a muddy sheet of water behind a dam in central Curaçao. (Sta. *893*; Oct. 1967)

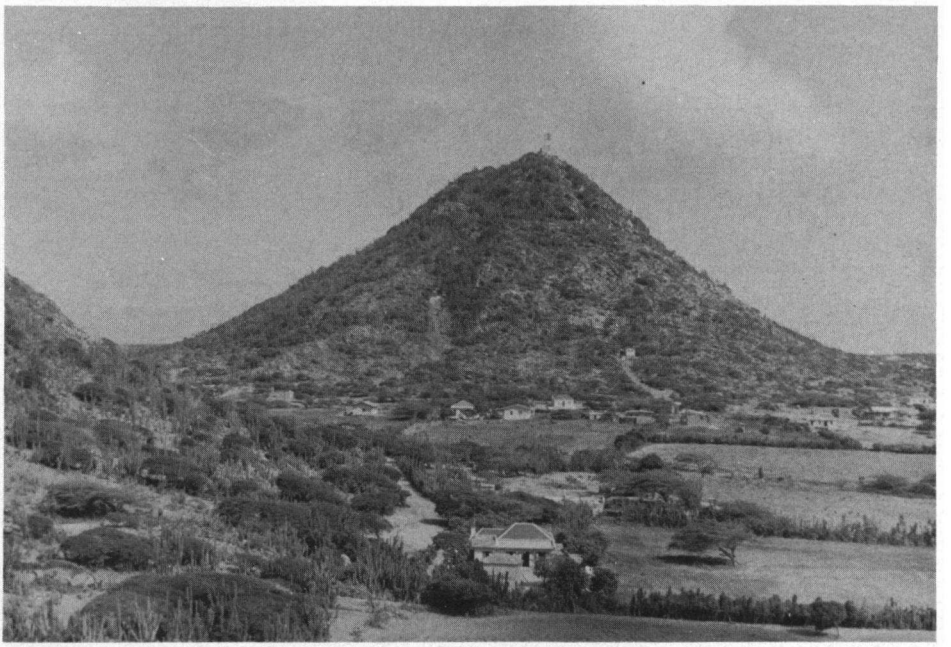
XLIIIa. In the westernmost part of Curaçao, north of Playa Abao, the seaward limestone cliffs are covered by a considerable vegetation of xerophytic shrubs and cactuses. (Sta. *240*; Nov. 1936)

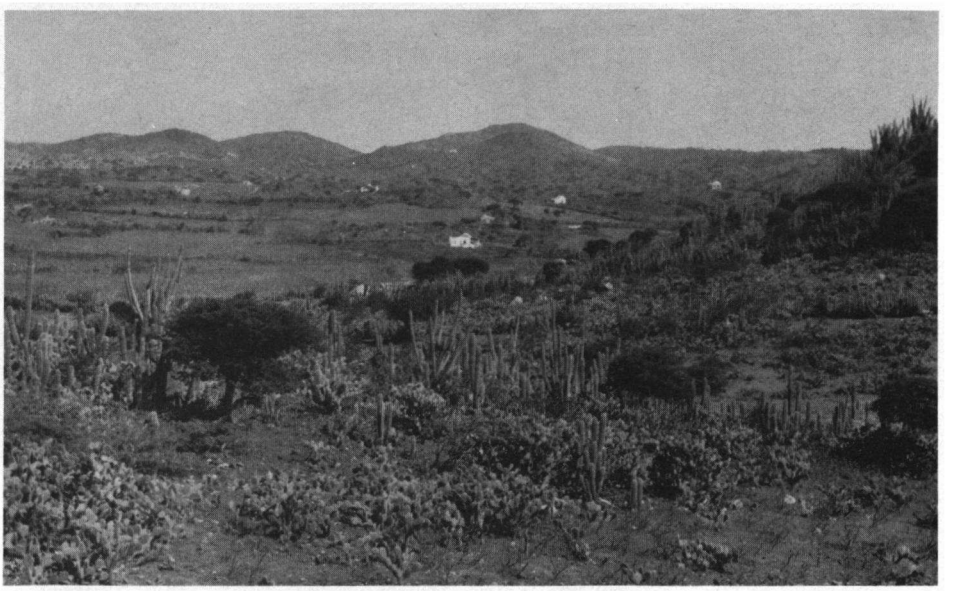
XLIIIb. Near the western shore of Curaçao, Hofje St. Kruis reveals the charms of a shady grove of Mango trees. (Sta. *245*; Oct. 1936)



XLIVa. Quite outstanding in semi-arid Curaçao is the scenery on top of the Christoffel mountain: a capricious formation of siliciferous cherts with a few small *Coccoloba* and *Clusea* trees, adorned with strings of beard-mosses fluttering in the eastern trade wind. (Sta. *234c*; Feb. 1949)

XLIVb. The Seroe Christoffel (372 m), highest "mountain" of the Leeward Group of the Netherlands Antilles, now forms part of a recently created National Christoffel Park. (cf. Sta. *234, 235*; Oct. 1968)





XLVa. Looking north towards the Hooiberg (164 m), towering above the flat landscape of the central part of west Aruba. Small fields of Sorghum are fenced-off by thorny shrubs and rows of *Lemaireocereus*. This so-called "hay-shelf" consists of hooibergite, which is more resistant to weathering than the surrounding quartz-diorite (cf. Sta. *268*; Jan. 1949)

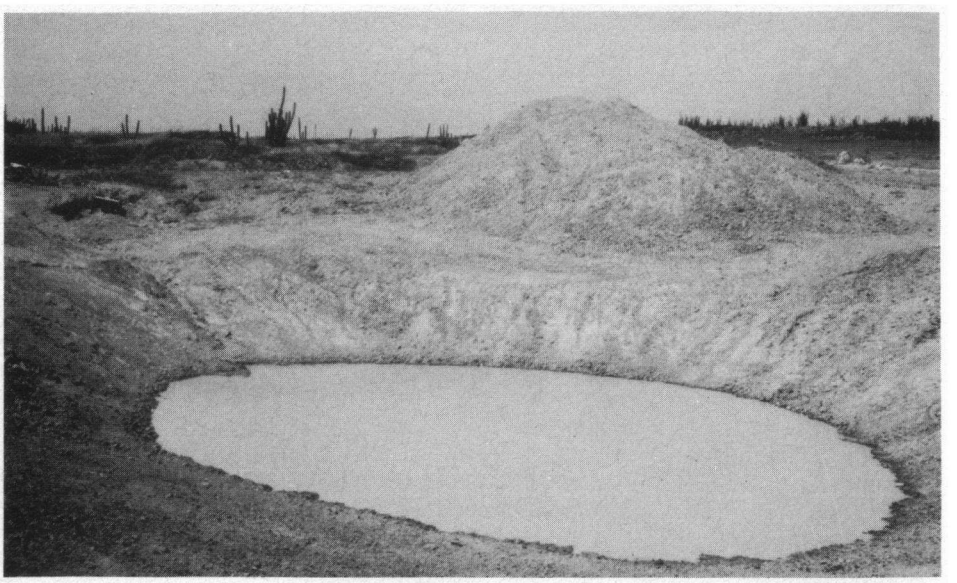
XLVb. Looking towards the non-calcareous hills of eastern Aruba (Jamanota, 189 m). Foreground showing an open cactus scrub of *Opuntia wentiana* and *Lemaireocereus griseus* with scattered *Caesalpinia coriaria*; centre-left with fields of Sorghum. (cf. Sta. *270*; Feb. 1937)

XLVIa. Desert-like landscape north of the Hooiberg, eroded by human activities. The big, rounded monolith (compare tall person besides) is hollowed out at its non-visible leeward-side. (cf. Sta. *269*; Jan. 1949)

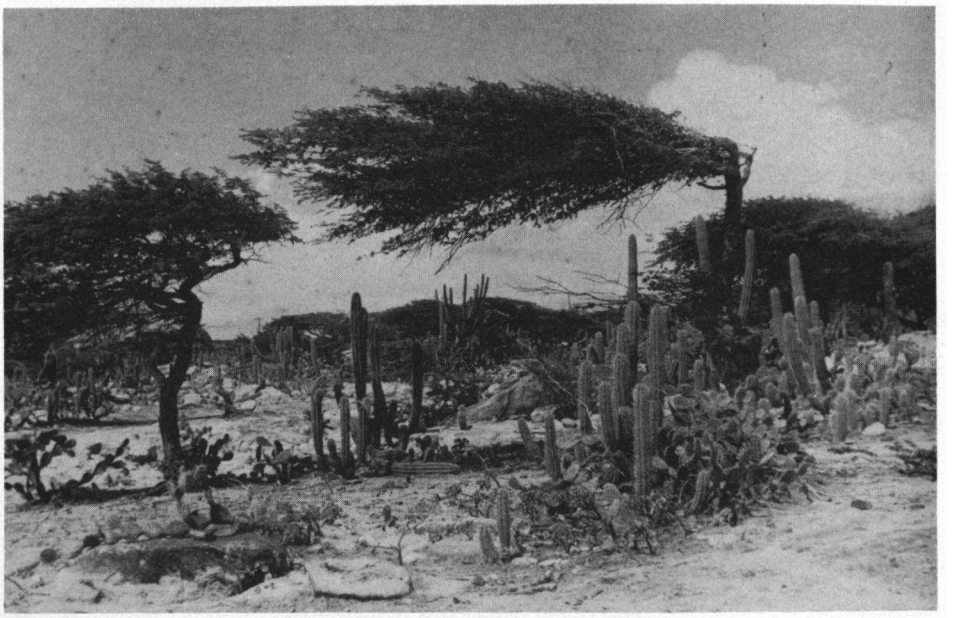
XLVIb. Temporary pool, created by a bulldozer when removing the decomposed quartz-diorite, southwest of the Hooiberg. (Sta. *400*; Dec. 1948)

XLVIIa. Tanki di Cas Ariba, a well-known pond near Santa Cruz, Aruba. (Sta. *401*; Dec. 1948)

XLVIIb. Fontein, the only permanent fresh-water pond in Aruba, fed by a spring from below the adjacent limestone plateau; once a famous fresh-water habitat, now neatly kept by Chinese gardeners who even introduced *Tilapia*. (Sta. *93c*; Aug. 1955)



XLVIIIa. The dunes of Boca Prins, deposited on Aruba's Lower Terrace.
(cf. Sta. *247–248*; March 1970)
XLVIIIb. Tanki Vader Piet, recently dug in the decomposed diorite soil of eastern Aruba.
(Sta. *0141*; Aug. 1973)



ILa. Dry landscape on hooibergite near Seroe Warawara. *Lemaireocereus griseus* and *Opuntia wentiana* on the foreground; trees greatly deformed by trade wind. (near Sta. *896*; Oct. 1967)

ILb. Bron di Rooi Prins, Aruba: a shallow pool below a minute cascade, only a few meters from a seepage of almost fresh water among schists and diabase debris, near the limestone cliff of Kasioenti. (Sta. *104Bc*; Aug. 1955)