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. RAuten’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.

Dr. John E. Randall, who made available the guest house of the Department of Marine Biology of the University of Puerto Rico, at Isla Magueyes.

George A. Seaman, who invited him to his home in Canaän, St. Croix.

Père Mathieu, whose guest the author was at St. Barts.

Warden Byron, who provided transport when the author visited Barbuda for the first time.

Dr. P. H. A. Martin Kaye, geologist, who showed the author around on Antigua.

Edgar Clerc of the sugar factory Gardel, who showed interesting localities in Guadeloupe.

Père Maurice Barbotin, who revealed the limnological marvels of Marie-Galante.

Père R. Pinchon, to whom the author paid a visit on Îlet Hardy, Martinique, and the Dutch sugar-engineer A. Westermann, who knew Martinique so well.

Dr. T. R. Groome, of Point Salines, Grenada.

Dr. John B. Lewis, of the Bellair's Research Institute in Barbados.

Dr. Victor Quessel and Dr. Julian S. Kenny, both companions on collecting trips in Trinidad; on this island the author enjoyed likewise the hospitality of Dr. I. E. Heesterman and the Imperial College of Tropical Agriculture.

L. D. Gerharts, expert in solving practical problems, the "great old man" of Bonaire, the island which yielded so many friends during the many years that the author was fascinated by its scenery.

Dr. Ingvar Kristensen, director of the Caribbean Marine Biological Institute, Curacao, who motivated so many people on behalf of the protection of nature; Curacao 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. Beerma.

Dr. William Phelps, Sr., took the author to Rancho Grande and introduced him to several Venezuelan colleagues, while Dr. D. C. Geijskes was an excellent guide in Suriname.

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

Finally the author wish 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 sense 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 sacrificed 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

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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, baia; Fr.: anse, baie).
*boca* (bron) = spring (Sp.: boca, manantial; Fr. source).
*höfi, höffie* (höfie) = 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).
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, ... 070, 071, ... 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, 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, 076, 079 |
|                                               | other flotsams         | 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                                         | 439, 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)

(NO 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)
calcareous ................ 439-A, (550), (554), (564), 589, 590, (918), (919), (034A), (013)
(non-calcareous .......... 439B-C, 440, (551), (555), (563), 565, (828), (916), (917)

largely protected from wind

(seriously affected by human activities)
calcareous ................ (041)

(not seriously affected by human activities)
calcareous ............... (369), (370), (033), (034), (0112)
WEAK DRY SEASON – RATHER REGULAR RAINFALL, 1300–2100 mm

(in deep cave)
- calcareous \ldots (570)
- non-calcareous \ldots \ldots 445

(not in deep cave)
well protected from wind
- (seriously affected by human activities)
  - non-calcareous \ldots 427A, (695), 837, 843, (035), (036)
- (not seriously affected by human activities)
  - calcareous \ldots \ldots 466, (568), (569), (020)
  - non-calcareous \ldots \ldots 143, 144, 420, 427, 428, 437, 438

largely protected from wind
- (seriously affected by human activities)
  - calcareous \ldots (012), (014), (015), (016), (031), (037)
  - non-calcareous \ldots \ldots 149, 429, 430, (574), 844

partially exposed to wind
- (seriously affected by human activities)
  - non-calcareous \ldots 431, 588, 850, 853, 855, (039), 0113
- (not seriously affected by human activities)
  - calcareous \ldots (368), 735
  - non-calcareous \ldots \ldots 421, 478, 479, 0115

fully exposed to wind
- (not seriously affected by human activities)
  - non-calcareous \ldots \ldots 444

MARKED DRY SEASON – IRREGULAR RAINFALL, 800–1600 mm

(in deep cave)
- calcareous \ldots 141, 142, 474, (494), 721, 723, 745, 768A, 775
- non-calcareous \ldots 436, 446

(not in deep cave)
well protected from wind
- (seriously affected by human activities)
  - calcareous \ldots \ldots 746, 748, 776, 777, 778, 779, 780, 865, (031)
  - non-calcareous \ldots 147, (295A), 296, 298A-D, (366), 414, 617, 619, (791), 065, 067
- (not seriously affected by human activities)
  - calcareous \ldots \ldots 299A-B, 473, 474A, (493), 724, 733, 734, 747, 774, (999), 0107
  - non-calcareous \ldots \ldots 298, 423, 616, 622, 066, 0114

largely protected from wind
- (seriously affected by human activities)
  - calcareous \ldots \ldots 422, 587, (576), 605, 613, 615, (692), 725, 726, (958), (959), (962), (967), (969), (971), (976), (995), (997), (003)
  - non-calcareous \ldots \ldots 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, 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
 seriately 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

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)

(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, 338, 357A, 358, 821, 951

(not seriously affected by human activities)
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

(not seriously affected by human activities)

fully exposed to wind
(seriously affected by human activities)
calcareous ............... 258A, 262A, 265A, 271, 362, 911A


(calcareous ............... (127), (128), 129, 134, 137, 154, 168, 170, 174, 176, 252, 268A, 270A, 273, (286), (290), (301A), 309

non-calcareous ..........  (127), (128), 129, 134, 137, 154, 168, 170, 174, 176, 252, 268A, 270A, 273, (286), (290), (301A), 309

(non-calcareous .......... (127), (128), 129, 134, 137, 154, 168, 170, 174, 176, 252, 268A, 270A, 273, (286), (290), (301A), 309
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.


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; Casarina and Sesuvium, dead wood.

Key Biscayne

690 North Point, beach, 7.IX.1963. [5; 1s]
0–1; 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 Coccoboa 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]


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]

¼–1; 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.


5; karstified 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.
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.

1; sandy beach with decaying sea grass, mainly *Thalassia*.

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.

1–27; low-lying limestone with holes containing water after rains; cleared somewhat swampy brush; some detritus with a little plant decay.

2–37; dense mesic shrubbery on low limestone flat with holes; leaf decay with grasses.

10 ?; weathered limestone flat with karst holes; semi-cultivated with some grasses, shrubs and small palm trees; some debris and decay.

Thick layer of *Thalassia* cast ashore.

965A — 25.V.1973; *Avicennia* swamp; some muddy decay.
3–5?; karstificated limestone terrace with dense shrubs; some decay.

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.

2–3?; roadside in agricultural area on limestone flat; some debris.

4–5?; karstificated limestone plateau, dense shrubs with places cleared for agricultural purposes; some decay and in holes.

Sea grass with some Sargassum cast ashore on sand beach.

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.

2–3; sandy wall on limestone near shore; scanty grasses; very little decay.

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

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

6; honeycombed limestone plateau; scattered herbs and shrubs; some decay of Agave and shrubs.

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

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)

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.
21

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. Coccoabola*.

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.**
6; sandy key; abandoned coco plantation, greatly covered by *Ambrosia hispida* and other herbs, few trees (*Coenobita*; hermit crabs); some debris.

991 **Owen Island, 7 VI. 1973.**
0–4; *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 *Cerion*, few *Tectarius*); coco 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: Vla]
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 surface 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.
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.

7; honeycombed limestone; dense shrubs with vines, Cephalocereus and Agave; in holes and between dead leaves.

BLUFF AT STAKE BAY opposite Government Building, 2.VI.1973. [67 : VIb]  
20; honeycombed limestone; rather dense shrubs with vines, some bromeliads, cactuses and Agave; rock debris and decay.

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

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

8; semi-cultivated limestone area, burnt down vegetation; decay of fruit trees.

5–10; semi-cultivated area with pieces of limestone and scattered shrubs; debris.

Jamaica

30; limestone with shrubs, Agave and Cephalocereus; pieces of rock and dead leaves of Agave.

about 50; weathered marly limestone; shrubs; some plant debris.

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

400; White Limestone; shrubs in dry period; plant debris among boulders.

300; White Limestone; shrubs; scanty plant remains, among rock debris.

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.

200; garden adjacent to Chapel; wet leaf decay and timber, dirt from pool (028).

200; leaf debris from dry cemented trough.

50; White Limestone; shrubs on steep slope; among boulders and scanty plant remains.

1–2; sandy area; leaf debris and old bricks.

0–1; sandy decay of Rhizophora.

0–1; sandy beach with sea grass cast ashore.

Hispaniola

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 SALINA PAPAYO, E of La Parguera, 19.IX.1963.
0–4; 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 CUBA, 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).

    800; shrubs at roadside; some rock debris and mosses.

    850; woody area; rock debris, ferns and mosses.

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

    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 (mogo-te); rock debris partly covered with herbs and shrubs.

038  PLAYA MEDIANÍA ALTA, E of San Juan, 1.V.1973.
    0–1; 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.
   0-4; well-known sand beach with coconut palms; some *Syringodium* decay.

   60?; roadside cliff of shales, semi-cultivated, with rather dense plant cover;
   rubble and plant decay.

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**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*.

   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.

   200; non-calcareous rock with shrubs and small trees; dry leaf decay.

   60; non-calcareous weathered rock; leaf decay of spiny shrubs.

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**St. John**

   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*.

   200; clayish soil near drying pond, semi-cultivated; grasses and litter of
   *Mangifera*. 
300; diabase and schist-like rocks; few shrubs on steep slope; rock debris with scanty plant decay.

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

Fair Plain, shore, 16.VI.1955.
½–1; sand; scanty growth of trees; decay of Hippomane.

50%; marly limestone; low xerophytic shrubs and some small trees, semi-cultivated; rock debris with some plant decay.

50%; cultivated limestone area; rubble and plant decay.

60%; ruins of rum factory with many bats; wood decay with bat faeces (of Artibeus jamaicensis), plant waste.

60%; marly limestone; semi-cultivated area with scanty plant growth; some decay.

Canaan Stream valley, 10.VI.1955. (Pl. VI b)
50%; volcanic series with very hard limestone; well wooded; rock debris, wood and leaf decay.

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

Dog Island (Pl. VII)


North coast, near well, 17.VI.1949. [4: 27]

North coast, E of well, 17.VI.1949. [4: 28]

Anguilla (Fig. 8; Pl. VII–VIII)

Forest Point, beach, 20.VI.1949. [4: 27]

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]


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.


20 - 30; semi-cultivated area on the bluff; among pieces of rock and bricks (poultry present).

048 Badox 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.


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?; limestone flat 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.

      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]

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

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

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.


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. Maarten, 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  MESCOHINE HILL (Corner Hill), W top, 27.V.1949. [4 : 26; cf. 51 : IX]
473  MESCOHINE HILL, W base, 27.V.1949. [4 : 26]
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).
474D — sink-hole, 27.VII.1955; among debris.
474Da — 14.X.1963; as before, with some plant decay and bat faeces.
475  LOW LANDS, Flamingo Pond, 8.VI.1949. [4 : 26, Ilii]
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 : XIIi]
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.
1–5; loft of St. Josephs school (dusky); bat faeces (Molossus molossus).
608  PHILIPSBURG, house, 24.VI.1955.
107; 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.
    0-1; salty mudflat without vegetation, some rubbish and a few boulders.

711 GREAT BAY, NE shore, 16.X.1963.
    0-1; 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.
    1-1; sandy beach; wet decay of mainly Syringodium.
830a — 26.VI.1973; as before.

    2-10; diorite sand; scanty beach vegetation with Acacia, Cephalocereus
and Opuntia; some decay with cow dung.
    20-50; diorite; few shrubs on steep slope (cattle); some debris and faeces.

    170; volcanic tuffs with limestone; weathered rocky E slope, burnt vegeta-
tion, poor pasture; little decay among pebbles, in fissures.

    110; quartz-diorite landscape (cattle, poultry); some decay.

    130; dioritic hill, possibly with some limestone on top; margin of clearing for
pasture, high shrubs with cacti; rock debris and plant decay.

    30; poor pasture with Tamarind tree; rubble and decay, on Tamarindus.

    0-1; sandy shore; decay of sea grass (Uca fiddler crabs).

063 LA CROISADE, Quartier d'Orléans, 22.VI.1973.
    70; porphyritic outcrop; scattered shrubs, small trees and cacti; rock debris
with a little decay.
400; volcanic tuffs with cherts; high shrubs with Clusia; some decay among rock debris.

400; non-calcareous rock; shrubs and small trees with Bromeliaceae, some Bananas and Mangos; fissures with some plant decay and mosses.

65–70; non-calcareous rock; considerable growth of shrubs and trees; decaying wood and dead leaves.

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

30–40; andesite rock, spiny shrubs; fissures with some plant decay.

0–4; sandy beach of E shore; Syringodium and Sargassum cast ashore.

120–140; dioritic rock; shrubs, small trees and cacti; boulders, fissures, leaf decay.

260; tuffoid rock and cherts; dry shrubs with a few Bromeliaceae; rock fissures with a little decay.

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

Guana Bay ridge, 22.VII.1973. (Pl. Xb)
130–140; tuffs and cherts, possibly with some limestone; shrubs; some decay in fissures.

100; non-calcareous tuffoid rock; scanty shrubs with Cactaceae; some plant decay.

50; tuffoid rock; some low shrubs on exposed grassy slope (with a few cows); plant debris, pieces of calcareous bricks.

0–4; sandy beach; decay of Syringodium and algae.

30; tuffoid rock and cherts; considerable growth with bromeliads in trees; leaf decay.
10–20; limestone with karst; small trees and shrubs with bromeliads; under pieces of rock, in fissures, among plant decay.

10; karst surface with dense shrubs and small trees, bromeliads; rubble and plant decay.

0–4; rocky shore with sand; some decay of sea grass.

10; limestone; degraded bush partly inundated after rains; limestone flakes, dead bromeliads.

20; karstified limestone; rather dense high shrubs; pieces of limestone, fissures with weathered soil and plant decay.

40–50; limestone area with shrubs along road; rubble and some decay.

20; limestone escarpment; dense growth of high shrubs with Clusia; rock debris with decay.

20–25; limestone cave; weathered soil with bat faeces, without vegetation (dusky); below pieces of rock, faeces of Artibeus jamaicensis.

10–25; limestone and shales; some dry shrubs along road; some debris.

40; karstified limestone; dense dry shrubs with small trees, Bromeliaceae; rubble and plant decay.

30; limestone; rather dense scrub; under rock debris, dead wood, decay.

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.

15; diabase-like rock; sparse scrub with a few palms; among pieces of rock with some plant decay, dead Roystonia.
20–40; cherts; exposed slope with much Croton flavens, melocacti; very little plant decay.

1; semi-cultivated sand strip near lagoon, shrubs; some decay.

5–15; tuffoid rock and cherts; exposed hill with a few low trees used for grazing; rock debris, little decay, faeces.

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

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

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


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

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)

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

FOURCHE BAY, 2.VI.1949. [4:24]

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

WATERSHED NW GRAND FOND, 3.VI.1949. [4:23]
— 18.VII.1973; abt. 200; volcanic rock; as before.
448  NORTHWEST OF LORIENT, 3.VI.1949. [4: 23] (Pl. XIVb)

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

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

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

       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.

       10–20; limestone; rather dense vegetation with Croton, small trees and
       Cephalocereus; plant decay and rock debris.

       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]


439C — 8.VII.1973; 810; bananas, dead trees, mosses; decaying leaves, mould and rock fragments on clayish soil.


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]

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.
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.

330; weathered andesitic rock; sparse shrubs; some decay of Bromeliaceae.

0112 **SOUTHERN SLOPE OF THE MOUNTAIN** (Mount Scenery), 8.VII.1973. (Pl. XVb)
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.

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; §; sandy rock debris with decaying Halodule and Sargassum.
433b — 11.VII.1973; some sea grass [57: XVb]
433A Schilpaddebaai, 21.II.1949. [4: 22]
Fig. 13. Sketch-map of St. Eustatius, with station numbers of land and fresh-water localities.

      50; andesite; steep eastern slope with Melocactus, Opuntia and Agave; some plant decay in fissures.

      30; rocky area with little vegetation; some leaf decay.

      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]


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)

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]


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.
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.

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.
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.

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

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.

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

Coco Point beach, 23.VII.1967.
  0–1; white-sand beach; Sargassum, Syringodium, Turbinaria and Thalassia cast ashore.

Great Lagoon at Billy Point, W of entrance, 22.VII.1967.
  1–1½; sand beach; decaying Syringodium and Thalassia, dried.

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

Great Lagoon at Cuffy Creek, 22.VII.1967.
  0–4; muddy sand flat with some decay.

Great Lagoon at Palm Beach, 23.VII.1967.
  0–4; muddy sand with decay of Syringodium and Thalassia.

Antigua

  50; limestone; considerable growth of xerophytic shrubs; below rocks and in fissures with some plant decay.

  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).

Parham Hill, S slope, 14.VII.1955.
  50; limestone; xerophytic shrubs with Agave and a few Pisonia trees; weathered soil with some plant decay.

  50–70; weathered rock; scattered shrubs; debris in semi-cultivated pasture.

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

  15; decomposed rocks, cultivated area with grasses, shrubs, cacti and Tamaramindus; under pieces of rock, dead wood.
595A  — 17.VII.1955; 50; rocky slope; shrubs and small trees; leaf decay, Tillandsia utricularia.

0–1; white sand with *Syringodium* and *Thalassia* cast ashore.

**Montserrat**

½–1; blackish sand beach with e.g. *Hippomane mancinella*, used for recreation; some debris.

10–20%; cultivated area; some plant debris.

**Guadeloupe**

0–1; beachrock; decaying algae.

20%; limestone; 15 m deep cave in cliff near coast; some debris with very little bat guano.

20%; limestone; rocky slope with xerophytic shrubs; some plant decay.

20%; limestone; 15 m deep cave in cliff; some debris with very little bat faeces.

100%; tuffoid rock with limestone; slope with high shrubs and small trees; rock debris with scanty plant decay.

50%; cultivated area on limestone; sugar cane field; decaying cane leaves.

50% bananas; decaying banana trees.

0–1; white sand beach; *Sargassum* and other algae cast ashore.
La Désirade (Fig. 15; Pl. XXIII)

730  **GRANDE ANSE, 25.1.1964. [51 : XXb]**
    ½; white sand beach; thick layer of decaying *Thalassia* with *Syringodium*.

731  **GRANDE ANSE, 25.1.1964. [cf. 51 : XXb]**
    1; sand; coconut grove; dead cocos leaves on almost pure sand.

732  **NEAR GRANDE ANSE, 23.1.1964.**
    30; limestone; considerable growth of shrubs and a few small trees; decomposing rock and plant decay.

733  **NORTH OF GRANDE ANSE, 26.1.1964.**
    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, 26.1.1964.**
    200; limestone; shrubs and trees; Bromelias.

735  **LE CALVERT (Calvarie), 26.1.1964.**
    210; limestone; dense growth with small trees; boulders with plant decay, chiefly from *Coccoloba uvifera*.

736  **POINTE DOUBLÉ, near abandoned Meteorol. Station, 24.1.1964.**
    507; 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.

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

50?; cultivated area; leaf decay, dead wood and mould.

100–150; soft tuffoid rocky slope; growth of shrubs, trees and bamboo; some debris.

‡–1‡; swampy area with beach vegetation and Cocos; some debris.

Islote Aves (Isla Aves)

410 Eastern Shore, 12.V.1949. [‡: 20]

411 Southern part, 12.V.1949. [‡: 20]
Fig. 16. MARIE-GALANTE, with numbers of land and fresh-water localities.

CENTRAL PART, 12.V.1949. [ø : 20]

Martinique (Fig. 17)

BAIE DE TARTANE, Caravelle, 9.II.1964.
½ : sandy; decay of Sargassum and rubbish cast ashore.
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 Islets, 10.II.1964.
30%: andesitic rock; remnants of rum factory, among bamboes.

764
Islet Hardy, beach, W, 11.II.1964. 51 : XXIa
½: 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.
ISLET HARDY, eastern shore, 11.II.1964.
20; porous limestone; dense growth of *Sesuvium* in spray; in fissures and among *S. portulacastrum*.

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

TROIS RIVIÈRES, 3.5 km W of S.te Lucie, 12.VII.1967.
4–1; mudflat; *Cocos* grove (*Cardisoma* crabs); cocos decay, stems, leaves and husks.

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

St. Lucia

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

St. Vincent

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

CALLIAQUA BAY at Johnson Point, 10.VII.1967.
0–4; sand; scanty plant debris with leaves of *Coccoloba uvifera* (*Uca*).

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

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

Barbados (Fig. 18; Pl. XXVII)

CHERRY TREE HILL, N of Belleplaine, 17.II.1964.
1007; marly limestone; shrubs, in part cleared; rock debris with very little plant decay.

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

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

HACKLETON'S CLIFF at Horse Hill, 20.II.1964.
1007; marly limestone; well-wooded gully with *Cocos* and *Musa*; rock debris with leaf decay.

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 — 21.11.1964; 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, 20.11.1964.
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 mahogony*.

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)

   60; volcanic tuffs; scattered shrubs on grassy slopes near coast; rock debris with some decay and cow dung.

   5; decomposed volcanic rock; scattered shrubs and trees near shore; rock debris, behind the bark and near base of dead *Ceiba*.

   80?; volcanic rock; cocoa estate with banana and coconut trees; leaf decay of *Theobroma, Musa* and *Cocos*.

   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.

   500; volcanic tuffs; forest with ferns, *Selaginella* and mosses near lake; wood decay, ferns and mosses.
30°; volcanic tuffs with alkaline and sulfur deposits; some shrubs; plant decay.

TOBAGO

STORE BAY, near Milford, W point, 17.1.1955.
3; limestone with sandy soil; dry shrubs near cultivated area, 10–30 m from shore; pieces of coral with scanty plant debris.

AIRPORT, S, near West Point, 17.1.1955.
10; limestone; scattered trees in semi-cultivated grassy area; rocks with plant decay, cattle dung.

— 17.1.1955; shallow sink-hole with shrubs; limestone with plant decay.

½; rock of volcanic origin; decaying Sargassum and other flotsam.

LITTLE TOBAGO, 18.1.1955.
50; volcanic rock; considerable growth of shrubs and small trees, decay of palm trees, Clusia and shrubs.
LITTLE TOBAGO, at landing, 18.1.1955.
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]

366 ST. AUGUSTINE, I.C.T.A., 8, VIII.1948. [4 : 19]
367 PORT-OF-SPAIN, waterfront, 8.VIII.1948. [4 : 19]

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

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

230; limestone; bat manure on weathered dripstone (dark).

571 ARIPO ROAD, Northern Range, 30.1.1955.
400; limestone schists; heavily wooded; plant decay.

600–800; limestone; heavily wooded, Maranta, ferns and mosses; among ferns and mosses, decay in fissures.

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.

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), 11.1.1955.  
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, 10.1.1955.  
|-1; sand, schist debris; abandoned cocos grove; some decay of *Cocos*.

578  **MONOS**, South Sea Bay, 10.1.1955.  
5-20; schists; underbrush; some decay with rock debris.

579  **CHACACHACARE** (island), Bande du Sud, 11.1.1955.  
|-1; sand and schists; decaying *Sargassum*, sandy rock debris.

1 - 20; schists; dry scrub and beach vegetation; some decay with debris.

789  **COCOS BEACH** at Nariva Bridge, 17.1.1964.  
|-; sand; fallen coconut trees; flotsam without algae.

|-; sand; some beach vegetation, sponges and algae.
Perserverance Estate, ESE of Point Fortin, 16.1.1964.
50°; sandy; shrubs near Cocos grove; plant decay, mould.

Los Testigos

157 Morro de la Iguana (island), 14.VI.1936. [2 : 25; f : 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 f : IIIa]
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 Morro de Robledar, Macanao, +.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; f : 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 ; J : IIa]
145 LA ASUNCIÓN, hill slope, 3.VII.1936. [2 : 25]
146 LA ASUNCION, hill slope, 3.VII.1936. [2 : 25]
147 LA ASUNCION, fruit plantation, 3.VII.1936. [2 : 25]
149 TOMA DE AGUA DE LA ASUNCIÓN, 12.VII.1936. [2 : 25]
150 TOMA DE AGUA DEL ENCARADO, San Juan Bautista, 13.VII.1936. [2 : 25]
151 SAN ANTONIO, 16.V.1936. [2 : 25, 1a]
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.
    1; sand from sandy shales; coarse debris with some algae.
    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.
    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]
60

Cubagua
130 Northwestern part, 21.V.1936. [2:23]

Los Hermanos
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. XXXV1)
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]
ZUIDPUNT, 26.III.1937. [2 : 28]

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

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

LIMA, NW, 14.XI.1936. [2 : 29]
Pos BACA, S of Kralendijk, 29.IX.1930. [2 : 29]
— 20.IX.1948. [4 : 12]

TANKi GEORGE, Deenterra, 25.III.1937. [2 : 29; cf. S2 : VIIIa]

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

SPElONk, Kamber Largoe, 24.III.1937. [2 : 29, fig. 4]
— 15.IV.1955; debris with faeces of Glossophaga (dark).

SPElONk, Kamber Chikite, 24.III.1937. [2 : 29, fig. 4]

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

FONTEiN, ruins, 30.III.1937. [2 : 29]

FONTEiN, tunnel of spring, 13.XI.1936. [2 : 29]

FONTEiN, Hoje, 30.III.1937. [2 : 29]
— 11.IX.1948. [4 : 12]
— 8.IX.1967; debris of abandoned garden.
— 28.III.1949. [4 : 12]
— 8.IX.1967; mosses and limestone deposits from water overflow on wall.

TANKi ONIMA, 13.XI.1936. [2 : 29; cf. I : IVb]
— 19.IX.1948. [4 : 12]

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. 13.11.1936. [2 : 30]
197 Brandaris, 27.11.1937. [2 : 30]
198 Pos Bronswinkel, 27.11.1937. [2 : 30]
302 Cay, entrance of Lac, 17.11.1948. [4 : 11]
303 Cay, salt pan, 25.11.1949. [4 : 12]
304 Punt Vierkant, Sabana, 5.11.1948. [4 : 12]
305 Lima, NW, 5.11.1948. [4 : 12]
306 Kralendijk, shore, 24.11.1949. [4 : 12]
307 Paloe Lechi, salina, 24.11.1949. [4 : 12]
308 Lagoen, S shore, 14.11.1948. [4 : 12]
309 Lagoen, N shore, 14.11.1948. [4 : 12]
310 Boca Onima, 19.11.1948. [4 : 13]
311 Boca Onima, beach, 19.11.1948. [4 : 13]
312 Onima, E, 19.11.1948. [4 : 13]
313 Pos Dominica, S of Rincón, 15.11.1948. [4 : 13]
314 Oeroesian Blanco, cave of Barcadera, 3.11.1948. [4 : 13]
315 Goto, SW shore, 22.11.1949. [4 : 13]
316 Wecua, S of Slagbaai, 23.11.1949. [4 : 13]
556 Lagoen, N beach, 2.11.1955.
   ½ ; sandy; thick layer of seaweed, and other flotsam polluted by oil.
557 Bolivia, farm, 15.11.1955.
   25 ; limestone; shrubs and small trees, semi-cultivated; stones, moulding
   wood, chicken waste.
   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.

do; limestone and diabase conglomerate; few shrubs, Opuntia curassavica; scanty decay in fissures.

0–1; sand; dry and wet decay of Thalassia, Syringodium, Avicennia, driftwood.

873 LAC, Playa Palu Calbas, 5.IX.1967.
0–1; wet sandy decay of Thalassia and Syringodium.

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

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

1–1; limestone, mud; jetsam, most Cerithidea, leaves of Rhizophora, rock.
65

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

877  **LAC, S of Boca Fogon, 14.VIII.1967.**
     0–4; *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.**
     0–4; *Rhizophora* swamp.

880  **LAC, CAI (Cay), 16.IX.1967.**
     1–4; 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  **HOFFE 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 CHIKITO, 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.
12; volcanic rock with limestone; abandoned aloe-field; scanty shrubs with Cephalocereus and Melocactus; below limestone, some debris.

6; limestone terrace; xerophytic scrub and cacti; some plant debris in fissures and pockets.

20; limestone; abandoned aloe field; scattered shrubs and cacti; rock debris and decay.

20; limestone; debris of masonry, waste.

20; limestone on volcanic rock; some small trees and shrubs; some decay.

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)

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

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

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

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

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

NORTHERN SHORE, near new landing, 3.XII.1963.
14; limestone terrace; scattered shrubs and small trees; in fissures and under stones with little plant decay, below Bursera bonairensis.

NORTHERN SHORE, near new landing, 3.XII.1963.
14; limestone terrace; some shrubs and small trees; slabs of limestone with a little plant decay.
67

1\}; 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]


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]


203 Seroe Mainsje, 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, Quarantine, 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 Evertsberg, Piscadera, 10.X.1936. [2: 33]

215 Seroe Spreit, Malpays, 23.X.1936. [2: 33]
216 Hato, Hojë, 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 Koenoeke (Curucu) Aabo, Midden-Curaçao, 9.XI.1936. [2 : 33]
222a —20.VIII.1948. [* : 16]
223 Hermanos, 9.XI.1936. [2 : 33]
224 Seroe Kabritoë (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 Cuéba, escarpment near coast, 29.X.1936. [2 : 35]
227a —30.IV.1930. [2 : 35]
228 Seroe di Cuéba, 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. [* : 17]
234b —23.XII.1948. [* : 17]
234c,A —11.II.1949. [* : 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)
235Aa — II. 1946. [4 : 17]
235Ba — 12.X. 1968; 250; Bromelia lasiantha.

236 Rooi Sánchez, Knip, 11.XI. 1936. [2 : 35; cf. 32 : X]

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

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

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

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

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

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

243 ST. KRUIS BAAL, 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. Krús 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.

323Ba — 3.I. 1949. [4 : 14]

324 HOFJE GROOT ST. JORIS, 18.I. 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, 10.IV. 1949. [4 : 14] (cf. Pl. XXXIXa)


Fig. 24: Western part of CURAÇAO, showing land and fresh-water localities.
Fig. 25. Eastern part of Curacao, showing land and fresh-water localities.

332 Cas Corá, 20.XI.1949. [4: 15]

333 Curasao Museum, Mundo Nobo, 22.III.1949. [4: 15; cf. 52: IXb]

334 Groot Piscadera, Klein Hofje, 27.I.1949. [4: 15, 1a]


339A — 27.1.1949. [4: 16]

340a — 20.X.1948. [4: 16]
340b — 1.XII.1948. [4: 16]
340c — 4.I.19464; 20; dark limestone cave with nursery of Mormoops.

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

342 Cueba di Chichi, cave of Bulleenbaai, 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]

349 Seroe Gracia, Knip, 17.VIII.1948. [4: 17]
349A Seroe Batata, 23.XII.1948. [4: 17]
<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Date</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>350</td>
<td>Rooi Cajoeda, near well, Knip</td>
<td>17.VIII.1948. [4: 17]</td>
<td></td>
</tr>
<tr>
<td>351</td>
<td>Rooi Beroe, near Pos Sjimarrón</td>
<td>23.XII.1948. [4: 18]</td>
<td></td>
</tr>
<tr>
<td>352</td>
<td>Plaja Djerimi, escarpment</td>
<td>11.XII.1948. [4: 18]</td>
<td></td>
</tr>
<tr>
<td>353</td>
<td>Seroe Baha So, top, Spaanse Put</td>
<td>16.II.1949. [4: 18]</td>
<td></td>
</tr>
<tr>
<td>354</td>
<td>Seroe Baha So, ruins</td>
<td>16.II.1949. [4: 18]</td>
<td></td>
</tr>
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<td>355</td>
<td>Spaanse Put, Hofje</td>
<td>16.II.1949. [4: 18]</td>
<td></td>
</tr>
<tr>
<td>357-A</td>
<td>Rooi Magdalena, Patatentuin</td>
<td>5.I.1949. [4: 18]</td>
<td></td>
</tr>
<tr>
<td>358</td>
<td>San Juan, pig farm</td>
<td>18.XII.1948. [4: 18]</td>
<td></td>
</tr>
<tr>
<td>359</td>
<td>St. Joris Baai, NW beach</td>
<td>20.II.1955.</td>
<td>§; sandy beach with debris, oil residue.</td>
</tr>
<tr>
<td>360</td>
<td>Seroe Stela, top, St. Joris Baai</td>
<td>20.II.1955.</td>
<td>25-35; limestone; few Hippomene trees and shrubs; some leaf decay in fissures.</td>
</tr>
<tr>
<td>361</td>
<td>Spaanse Put near Playa Frankie</td>
<td>27.II.1955.</td>
<td>10; limestone; shrubs with small trees and cacti; under stones and in fissures almost without plant decay.</td>
</tr>
<tr>
<td>810</td>
<td>Seroe Patia near Awa Blanco, Fuik</td>
<td>27.X.1963.</td>
<td>10-30; limestone; some shrubs and small trees; some plant decay, in fissures.</td>
</tr>
<tr>
<td>811</td>
<td>Duivelsklip, Fuik</td>
<td>27.X.1963.</td>
<td>20-40; limestone escarpment; scanty shrubs, cacti; boulders; fissures with goat droppings.</td>
</tr>
<tr>
<td>812</td>
<td>Seroe Blanco, Fuik</td>
<td>22.XI.1963.</td>
<td>60; limestone plateau; Croton with Opuntia, some Coccoloba and Hippomene; tree trunks, leaf decay, in fissures.</td>
</tr>
<tr>
<td>813</td>
<td>Seroe Pretoe, Fuik</td>
<td>22.XI.1963.</td>
<td>50; limestone on diabase; scanty Croton with Opuntia; gravel with some plant decay.</td>
</tr>
<tr>
<td>814</td>
<td>St. Joris Baai, near S. di Boca</td>
<td>22.XI.1963.</td>
<td>§; sandy shore; coarse plant decay cast ashore.</td>
</tr>
<tr>
<td>815</td>
<td>Fuik Baai, W wall</td>
<td>17.XI.1963.</td>
<td>§-1; coral rubble, growth of Laguncularia; leaf decay.</td>
</tr>
</tbody>
</table>
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 Cueva di Jetchi, Hato, 11.VIII.1962. (L. J. van der Steen coll.)
20; limestone cave with residual soil; bat faeces (dark).
   5; limestone escarpment; *Guayacum* trees; debris with scanty decay.

   4; sandy beach with limestone; decaying *Sagassum*. [cf. 51 : XL]

   5; limestone escarpment; *Hippomane* trees; boulders with leaf decay.

   2; cherts; *Tamarindus* with scanty shrubs; debris.

904 Awa di Oostpunt, 21.IX.1968.
   4; sandy beach; decaying *Thalassia*.

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

   10; limestone; sparse vegetation.

907 Playa Boca Canoa, 15.IX.1968.
   4; sandy shore, decayed *Sargassum*.

908 Fuiibaai, 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.
4¾; 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.

951a 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.

15; dark limestone cave with residual soil.

952a — 22.VIII.1973; animal remains, bat faeces.

40; limestone cliff, disturbed; spiny scrub with Croton; rock debris with some decay and waste.

85; limestone terrace; shrubs with Agave; plant decay, in fissures.

20; weathered soil with limestone; some shrubs; debris.

25; limestone cliff; shrubs with Croton, Caesalpinia and Opuntia; among pieces of limestone, mould, in fissures.

8; limestone; some shrubs; plant decay, rock debris.

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]
248A Fontein, S, 5.VII.1930. [2 : 37]
249 Quadririkiri, before the cave, 9.II.1937. [2 : 37]
250 Grot van Quadririkiri, dark cave, 9.II.1937. [2 : 37, fig. 7]
251-A Grot van Quadririkiri, 9.II.1937. [2 : 37, fig. 7]
251a — 30.XII.1948. [4 : 18]
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]
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.
266  **Seroe Canashito**, S. 7.XII.1936. [2 : 39]
267  **Seroe Canashito**, NE, 7.XII.1937. [2 : 39]
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)
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**, Hoře, 9.XII.1936. [2 : 40]
275  **Solito**, 16.XII.1936. [2 : 40]
276  **Heintje Croes**, Oranjestad, 14.XII.1936. [2 : 40]
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.

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.

      1–3; sink hole in low limestone terrace; scanty shrubs; some leaf decay of *Croton* and *Prosopis*. 
Cave of Andicuri, 6.VIII.1962. (L. J. van der Steen coll.)

Seroe Wara-Wara, 22.X.1967. (Pl. IIa)
70; hooibergite; spiny shrubs and cacti; some plant debris, among rock debris.

65; weathered limestone terrace with scanty shrubs; below slabs of limestone and in fissures.

La Goajira (I: fig. 3)

Laguna de Tucacas, 15.I.1937. [2 : 41]
Castilletes, 14.I.1937. [2 : 41]
Cabo de la Vela, Ranchería, 22.I.1937. [2 : 41; cf. 52 : XIIb]
Cabo de la Vela, peninsula, 22.I.1937. [2 : 41]
Río Hachá, NE, 20.I.1937. [2 : 41]
Río Hachá, 1 km S, 18.I.1937. [2 : 42]
Río Hachá, 2 km S, 18.I.1937. [2 : 42]

Paraguaná (I : fig. 3)

Carirubana, Quebrada, 15.II.1937. [2 : 40]
Cerro Transverso, E of Carirubana, 16.II.1937. [2 : 41, 1b]
Santa Fé, E, 18.II.1937. [2 : 41]
Moruy, NE, 18.II.1937. [2 : 41]
Cerro de Machurucu, SE of Cerro de Sta Ana, 16.II.1937. [2 : 41]
Venezuela (Aragua, D.F., Anzoátegui, Sucre)

122 GUANTA, N of Barcelon, 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 PENÍNSULA DE PUERTO SANTO, E of Carúpano, 12.VI.1936. [2 : 22; 1 : Ib]
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]

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.

826 MACUTO, E of La Guaira, 9.1.1964. 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.
SILLA DE CARACAS, Teleférico, 16.XI.1968.
2100; roadside; ferns and mosses in fissures.

CARACAS, Jardin Botánico, 10.XI.1968.
900; rocky slope; debris and decay.

Suriname (abridged)

CHARLESBURG, N of Paramaribo, 2.VIII.1948. [4: 19]

ZANDERIJ, 40 km S of Paramaribo, 3.VIII.1948. [4: 20]

ZANDERIJ, 42 km S of Paramaribo, 3.VIII.1948. [4: 20]

REPUBLIEK, SW of Paramaribo, 3.IX.1955; decaying wood in forest.

KABEL, 31.VIII.1955; grassy roadside, among debris.

KABEL, 2.IX.1955; mould and leaf decay in forest.

KABEL, 2.IX.1955; decaying palm tree in pool.

ALOESOEBANJA RAPIDS near Kabel, 1.IX.1955; decaying Mourera.

PURMEREND, N of Paramaribo, 1.III.1964; roadside near river.

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.
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 occasionally dry ... 385, 386, 545, 756A
(brooklet)
ever 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
  - usually dry for a few months: 52, 60, 63, 64, 387, 385, 386, 666, 668, 767, 0102
  - us. dry for several months: 376A, (549), 641, 667, 888, 0129

- **with almost no underground circulation**
  - never dry: 406, (407), 548, 755, (792A), 861, (981)
  - 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)
### No Part of Flowing Water System After Rains

<table>
<thead>
<tr>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never dry ..........................................</td>
<td>20, 42, (110), (118), (120), (409), 662, (793), (920), (921)</td>
</tr>
<tr>
<td>Probably never dry ................................</td>
<td>13, 18, 29, 35, 37, 41, 66, (114), (646), 677A, (706), (794)</td>
</tr>
<tr>
<td>Probably occasionally dry .........................</td>
<td>50, 82, 83, 100, 397, 524, 525, (653), 677, 682, 718, 759, 760, 848, 852, 890, 898, 944, (028), (029)</td>
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<tr>
<td>Usually dry for a few months .....................</td>
<td>(6), 10, 12, 24, 30, 31, 32, 33, 34, 51, 89, (111), 388, 523, 525, 527, 537, 539, 659, 664, 781, (795), 093, 094, 095, 096, 097, 098, 0141</td>
</tr>
<tr>
<td>Us. dry for several months .......................</td>
<td>(4), (59), (79), 85, 97, 98, 99, 392, 396, 400, (707), (796), 838, 891, 931, 943</td>
</tr>
</tbody>
</table>

#### (Free or in shallow hole)

<table>
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<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never dry ..........................................</td>
<td>14, 45, 508, 516, 533, 538</td>
</tr>
<tr>
<td>Probably never dry ................................</td>
<td>11, 65, 84, 506, 510, 511, 514, 515, 517, 719, 0120</td>
</tr>
<tr>
<td>Usually dry for a few months .....................</td>
<td>65A, 372, (408), 520, 529, 538A, 822, 823, 840, 903</td>
</tr>
<tr>
<td>Us. dry for several months .......................</td>
<td>398, 511A, 512, 515A, 716, 717, 737, 930, 099A</td>
</tr>
</tbody>
</table>

#### (In deep ar rather deep hole or well)

<table>
<thead>
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<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually dry for a few months .....................</td>
<td>65A, 372, (408), 520, 529, 538A, 822, 823, 840, 903</td>
</tr>
<tr>
<td>Us. dry for several months .......................</td>
<td>398, 511A, 512, 515A, 716, 717, 737, 930, 099A</td>
</tr>
</tbody>
</table>

#### (In bromeliad or hollow tree)

<table>
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<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually dry for a few months .....................</td>
<td>504, 519, 738</td>
</tr>
<tr>
<td>Us. dry for several months .......................</td>
<td>(3), 25, 404, 540</td>
</tr>
</tbody>
</table>
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 × 1\frac{1}{2}; temporary, dug; sandy swamp; muddy decay of Cocos and other trees; brown, 4160.

694 POND NEAR HARBOR DRIVE, 9.IX.1963.
25 × 10 × 1\frac{1}{2}; 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)

   2 x 2 x ¼; 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]  
   3/40 x 30 x 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, ¼ km E of Jackson Pt., 10. VI. 1973.
   5 x 5 x 2½; 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.

   3/200 x 2 x 1½; drainage of swampy limestone area; grassy borders with Typha, Chara and algae (fishes); 50.

   1 x 1 x ¼; depression in weathered limestone flat, possibly dug and semi-permanent in semi-cultivated area; muddy, crowded with grasses and rushes (snails and beetles); 370.

   3/4 x 1 x 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.
   3/2 x 2 x 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)

   1 x 1 x 1½; 1½ m below surface, artificial well in use for domestic purposes; limestone; very few small algae (some insects); 100.

   ¾ x 3 x 1½; 3 m below surface, in limestone from which water is pumped to cattle on The Bluff; 110.

   ¾ x 1½ x 7½; 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.
   ¾ x 1½ x 7½; 1 m below surface, tidal movements?, in use for domestic purposes; weathered limestone; sandy bottom (insects); 120.
$1 \times \frac{1}{2} \times \frac{3}{4}$; 14 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

$>50 \times 3 \times 1$; 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.

$>20 \times 2 \times \frac{1}{4}$; fast flowing with pools; cherts; some plant decay (insects and shrimps); 90.

$>200 \times 100 \times \frac{1}{2}$; asphalted borders, without vegetation (fishes, snails, shrimps); water piped from mountain area, 10.

$>20 \times 1 \times \frac{1}{4}$; overflow of Reservoir with several pools; clayish soil; muddy, no vegetation, plant debris; 40.

$3 \times 2 \times 1$; garden pool; plant decay; 30.

$3 \times 3 \times 1$; cemented pool; muddy bottom with phanerogams; ? 20.

$>10 \times 5 \times \frac{1}{4}$; 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 Rincón, 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. 
$>100 \times \frac{1}{2} \times 50 \times 1$; 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.
Río Guánica, floodgate in drainage of Laguna, 15.IX.1963. (Pl. IVb)
> 100 x 30 x 3; recent construction in clayish soil, almost no vegetation;
turbid, greyish, 650.

Ditch near Vivero Catalina, SW Luquillo (abt 60 m), 1.V.1973.
> 20 x 2 x ½; semi-cultivated grassy area; sand and rock debris (tadpoles,
shrimps, planorbids, beetles); 20.

St. Thomas

Brookman River near bridge, N of Mariendal, 17.VI.1955.
> 10 x 2 x ½, largest pool in rivulet; semi-permanent; detritus with decay of
Annona leaves, algae; 510.

St. Croix

10 x 5 x ½; artificial, semi-permanent; limestone; muddy plant decay, crow-
ded with waterlilies; slimy and brown, 590.

Canaán Stream, 10.VI.1955.
> 5 x 2 x ½; largest pool; semi-permanent; volcanic rock; some muddy decay
in pools, no vegetation; 290.

Canaán Trough, 10.VI.1955.
3 x 1 x ½; cemented trough, used as aquarium; muddy plant decay, crowded
with Eichhornia, Cabomba; 270.

— adjacent to 684, 10.VI.1955; cemented, used for drainage; some decay, almost
without vegetation; 320.

Canaán Puddle, 10.VI.1955.
1 x 1 x ½; iron open air aquarium; some mud, Cabomba; 300.

Dog Island

Dog Island Well near northcoast, 17.VI.1949; 1410. [#: 38, 55]

Anguilla (Fig. 8; Pl. VII-VIII)

Forest Point Saltwell, 18.VI.1949; 4070. [#: 38, 55] (Pl. VIIb)

Bedney's Spring near Mead's (Maze) Bay, 18.VI.1949; 1505. [#: 38, 55]

Spring of Mead's Bay near saltpond, 18.VI.1949; 4960. [#: 38, 55]
BADCOX POND, W of Gauls Pond, 1.VII.1973. (Pl. VIII)
Seepage from limestone near saltflat; much Spirogyra; 2700.
— 300 m from Sta. 055; 1.VII.1973; seepage; abt. 2500.

3 x 2 x 1; cavern water in dark cave; limestone debris, some floe-calcite (crustaceans); 780.

— 2nd pool, 2.VII.1973; 790.

St. Martin (Fig. 9–10; Pl. X – XII)

POND OF POINT BLANCHE, 17.V.1949; 7800. [4 : 38, 53]
— 5.VI.1955; 100 x 80 x 2/3; temporary, grassy mudflat with Chara (Uca); 3800.
— 27.IX.1963; 90 x 70 x 2/3; same; 5170.
Little Pond of Point Blanche, 5.VI.1955; 30 x 20 x 2/3; temporary, connected with 528 after rains; very muddy, no vegetation (Uca); turbid, 2750.
— 25.VII.1955; 8 x 6 x 2/3; as before (Uca); 3200.

OLD BATTERY CISTERN, SE of Philipsburg, 18.V.1949; 105. [4 : 38, 53]
— 17.III.1937; rock and plant debris; fresh.
— 3.VI.1955; 10 x 2 x 1; polluted, no vegetation; brownish, 170.
— 25.VII.1955; dense growth of duckweed; 200.

CRAB HOLE CISTERN, E of Philipsburg, 18.V.1949; 9920. [4 : 38, 53]
— 2.VI.1955; 15 x 5 x 2/3; cemented cistern with dense growth of Chara, some Ruppia (Uca) (destroyed by road building Sep. 1962); 5200.

PUDDLE IN ROLANDUS CANAL Upstreet, 25.V.1949; ?1500. [4 : 53]

PUDDLE IN RAMBEAU VALLEY N of Marigot, 20.V.1949; 380. [4 : 38, 53]


PUDDLE IN COLOMBIER VALLEY, head of ravine, 20.V.1949; 265. [4 : 38, 53]

SLOB OF ST. PETER, Cul-de-Sac, 24.V.1949 (dry 16.X.1963); 35. [4 : 38, 54] (Pl.XIa)

DOCTOR’S WELL, Rockland, Cul-de-Sac, 24.V.1949; 355. [4 : 38, 54] (cf. Pl. Xa)
— 29.VI.1955; 2 x 2 x 1/2; 2 m below pasture-like surface; stone wall; rock debris, crowded with algae; 430.
— 16.X.1963; same; 320.
— 24.VI.1973; about the same, disturbed; 540.
— trough, 24.V.1949; ?400. [4 : 54]
— 16.X.1963; 5 x 1 x 1/5; cemented trough, cleaned, coated with algae; ? 350.
PUDDLE near DOCTOR'S WELL, 24.V.1949; 635. [4 : 38, 54] (cf. Pl.Xa)

- 29.VI.1955; 15 x 3 x 1/2; temporary, deepened; pasture-like area; very muddy, no vegetation (dried up 16.X.1963); 710.

WATER in BROMELIAD at Meschrine (Corner) Hill, 27.V.1949. [4 : 38, 54]

DEVILS HOLE CAVE POOL, 4.VIII.1949; abt. 13,000. [4 : 54]

- 26.VII.1955; 1 1/2 x 1 x 1/3; semi-permanent, in connection with cavern water, tidal movements; limestone; very muddy, without vegetation (shady); 8100.

- 14.X.1963; 2 x 1 1/2 x 1/2; same; 9540.

- 2.VIII.1967; 13,290.

- 27.VI.1973; 1 1/2 x 1 x 1/50; 13,230.

DEVILS HOLE SWAMP, 4.VIII.1949; 13,800. [4 : 38, 54] (Pl. Xlb)

- 26.VII.1955; 1/7 x 1/7 x 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.

- 14.X.1963; 1/5 x 1/5 x 1/7, as above; 10,370.

- 2.VIII.1967; 1/5 x 1/5 x 1/7, as above (but without amphipods); abt. 10,000.

- 27.VI.1973; some soft mud only.

FISH NURSERY trough, Upstreet, Philipsburg, 7.VI.1955. [4 : Va]

10 x 1 x 1; cemented trough near Great Saltpond (= Sta. 1134), semi-permanent; crowded with Chara (no fishes); 5850.

- 28.IX.1963; only some Chara; 16,310.

BLOOMINGDALE CISTERN, NE shore of Great Saltpond, 7.VI.1955. (pl. XIIa)

8 x 4 x 1; cemented cistern, semi-permanent; sandy loam and rock debris; muddy, crowded with Chara; yellowish brown, 1890.

- 29.II.1963; 8 x 3 1/2 x 1/2; same (Potamopyrgus, fishes); 2170.

- 1.VIII.1967; 6 x 2 1/2 x 1/10; no Chara (fishes, dead snails); 12, 810.

- 21.VI.1973; almost no water, black mud covered by Chara; 110.

LITTLE BAY POND, E shore, 4.VI.1955.

800 x 500 x 1/2; behind wall of sandy rock debris; sandy mud with some Ruppia (Uca); 2100.

- S shore, 4.VI.1955; growth of Ruppia; 2050.

DEVILS HOLE CAVE PUDDLE, 15 m from 541, 26.VII.1955.

1/7 x 1/7 x 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.

- 14.X.1963; 1/5 x 1/5 x 1/7, as above; 10,370.

- 2.VIII.1967; 1/5 x 1/5 x 1/7, as above (but without amphipods); abt. 10,000.

- 27.VI.1973; some soft mud only.

OYSTER POND WELL (25 m), 13.X.1963.

22 x 1 x 1; temporary pool from fissures in volcanic tuffs and porphyrite; rock debris, mud and leaf decay of Pisonia; yellowish, 220.
15 x 15 x 1/2; temporary, dug in depression of cattle area; very muddy without vegetation (fishes and insects); turbid and brownish, 40.

SLOB OF BELVEDÈRE (45 m), 20.VII.1973. [52: Va]
15 x 15 x 1; temporary, in depression of cattle area; very muddy without vegetation (insects, Cladocera and Ostracoda); turbid, brownish, 80.

3 x 4 x 1; temporary, dug in weathered diorite; crowded with duckweed; polluted by chicken faeces and goat droppings, 430.

ROLANDUS CANAL POOL at The Hope, 21.VI.1973. (Pl. XIIb)
20 x 4 x 1; semi-permanent in weathered soil; very muddy, with grasses and Chara (fish, snails, insects); turbid, yellowish brown, polluted by cattle, 330.

SLOB OF WELGELEGEN, W of Philipsburg, 22.VII.1973. [52 : Vb]
15 x 12 x 1/2; semi-permanent cattle pond; very muddy and crowded with duckweed; polluted, brownish, 210.

2 x 1 1/2 x 1; water hole in volcanic rock; very little debris, some duckweed; a little brownish, 70.

1 1/2 x 1 1/2 x 2 m below surface; old well dug in limestone; some plant decay; 2020.

Cistern near Puits, 16.VII.1973; 2 x 2 x 1/10; cemented, temporary; polluted by Mancheneel leaves, bad smelling, 2900.

2 x 2 x 1/2; 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. [# : 38, 52]
526a — 15.VII.1973; 2 x 2 x 1; 4 1/2 m below surface; mould; 3770.
256A — trough, 20.VI.1949; abt.? 4000. [# : 52]

SMALL CISTERN not far from White Bay, 15.VII.1973.
4 x 2 x 1/2; 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.[# : 38, 52]
Saint-Barthélemy (St.Barts) (Fig. 11)

523 Puddle at Lorient, 3.VI.1949; 3500. [\(\phi : 38, 52\)]

524 Mare des Palmiers, 3.VI.1949; 3540. [\(\phi : 38, 52\)]

Saba (Fig. 12)

516 Spring of Spring Bay, 28.VII.1949; 1410. [\(\phi : 38, 51\)]

517 Well of Spring Bay, 28.VII.1949; 160. [\(\phi : 38, 51\)]

518 Upper Mountain Water Hole, 25.VII.1949; 35. [\(\phi : 38, 51\)]

519 Water in Bromeliad at Upper Rendez-Vous, 26.VII.1949; 140. [\(\phi : 38, 51\)]

520 Booby Hill Cistern, 25.VII.1949; 17. [\(\phi : 38, 52\)]

521! Spring of Fort Bay, 21.VII.1949; abt.? 2500. [\(\phi : 52\)]

521a — 6.X.1963; > \(\frac{1}{2}\times3/4\times1/5\); 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. [\(\phi : 38, 52\)]

Sint Eustatius (Statia) (Fig. 13; Pl. XVIII)

504 Water in Bromeliad on The Quill, 12.VII.1949; 280. [\(\phi : 37, 50\)]

505 Manahega Cistern, Downtown, 7.VII.1949; 2300. (dry 8.X.1963) [\(\phi : 37, 50, IVa\)]

506 Manahega Well, near 505, 7.VII.1949; 1665. [\(\phi : 38, 50, IVa\)]

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). [\(\phi : 38, 50\)]

508 New Well near Gin House, Downtown, 7.VII.1949; 17. [\(\phi : 38, 50\)] (Pl. XVIIIa)

508a — 8.X.1963; as before; abt. 30. (10.VII.1973: 40)

509 Gin House Cistern, 7.VII.1949; 35. [\(\phi : 38, 50\)]

King's Well, Downtown, 13.VII.1949; 3450. [4 : 38, 50]

— 8.X.1963; as above; 2750.

trough, 13.VII.1949; abt. ? 4000. [4 : 51]

Golden Rock, bowl, 8.VII.1949; 105.(from well, 55 m deep, 9.X.1963: 360) [4 : 38, 51]

Cistern near Zeelandia, 8.VII.1949; 35. (dry 10.X.1963) [4 : 38, 51]

Well of Zeelandia, 8.VII.1949; 2690. (10.X.1963; 2165) [4 : 38, 51. IVb]

— 12.VII.1973; 2 × 2 × ¾; 5 m below surface; brownish, 1270

Spouts Well of Zeelandia, near Concordia Bay, 8.VII.1949; 7940. [4 : 38, 51]

— 10.X.1963; as before; 8910.

— 12.VII.1973; 2 × 2 × 22; no vegetation; 1080

trough, 10.X.1963; 8 × 1 × ¾; cemented, temporary; muddy debris with algae; abt. ? 10,000.


10 × ¾ × ¾; from 35 m deep well in cemented trough; andesitic rock; masonry with algae; 1205.

Trough of Concordia Well, 9.X.1963.

10 × ¾ × 1/10; cemented cistern, often dry; flakes of algae; 645.


1 × 1 × 1, artificial, 2 m deep; andesitic rock; debris and sand, often stirred; 1440.

Quater Well, Company Bay, 10.X.1963.

1¼ × 1² × 1, artificial, 7 m deep; andesitic rock; debris and sand; often stirred; 1540.

Concordia Bay Well, 11.VII.1975.

2 × 2 × 1/4, 5 m below surface; andesitic rock; clear, 4060.

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

Wingfield River, 30.VI.1949; 35. [4 : 37, 49]

Frigate Bay Cattle Pond, 20.VII.1955. (Pl. XXa)

20 × 20 × ¾; temporary?, dug; sandy rock detritus; mud, few small algae; turbid and brownish, polluted by cattle; 10,900

Cattle Pond Well, 20.VII.1955; ¾ × ¾; 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 x 2 x \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. XXIa)

20 x 20 x \frac{1}{2}; sheet of water in depression of limestone flat, semi-permanent; debris and mud, Najas and Chara, some Ruppia, algae (Rivulus); turbid and brownish, 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 x 2 x \frac{1}{2}; 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}{2} x 4 x \frac{1}{2}; temporary, 1 m deep hole in limestone; turbid and brownish (Branchipus); 240.

671 Dark Cave, Highlands, 6.VII.1955.

> 30 x 4 x 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 x 20 x \frac{1}{2}; semi-permanent pool in sink-hole, 20 m deep, possibly in contact with cavern water; soft mud with floculous algae; polluted by birds; 25°C, 1180.

673 Two-feet Bay Water Hole, 50 m from shore, 10.VII.1955.

\frac{1}{2} x 4 x \frac{1}{2}; temporary, in limestone terrace; muddy, without vegetation; turbid and brownish, 1020.

674 Low Pond, N of Ward’s House, Codrington Village, 5.VII.1955. (Pl. XXIb)

20 x 15 x 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 × 3/4; 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 × 3/4; 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 × 3/4; similar muddy pool out of a group of five; 140.

Antigua

664 Pond at Agricultural Experiment Station, 15.VII.1955.
25 × 15 × 3/4; semi-permanent, dug; loamy soil; very muddy with a few small algae only; turbid and brownish, 135.

20 × 10 × 3/4; permanent; 20 m from mangrove-lined creek; sugarfields, 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 × 3/4; 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 × 3/4; flowing streamlet near source with almost stagnant pools; algae (shrimps, snails, bugs); fresh.

1 1/4 × 1 1/4 × 3/4; 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)

>2 1/2 × 1 × 3/4; permanent pool in connection with swamp with Avicennia and Rhizophora at about 20 m distance; sandy mud, grasses and ferns; 375.
98

728! **Source de la Ravine d’Audouin**, near Moule, 28.I.1964. (Pl. XXIVa)
> 1½ x 1½ x 3; 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.

?50 x 1½ x 3; 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 x ½ x 1/10; temporary, cemented trough near 5 m deep well; crowded with decay of *Hippomane mancinella*, without algae; brown, 8200.

1/20 x 1/20 x 1/100, several; temporary; greenish brown, rainwater.

739 **Water Hole of Cybèle** (60 m), 24.I.1964. (cf. Pl. XXIIIa)
1/10 x 1/10 x 1/20; temporary, hole in limestone, crowded with leaf decay of *Coccoloba uvifera*; rainwater.

740! **Source de Cybèle** (90 m), 24.I.1964.
?½ x 1½ x 3; 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 x 1 x 1/5; about 30 m from 740; muddy, leaf decay.

741! **Grande Source**, Baie Mahault, 24.I.1964. (Pl. XXIIIb)
½ x ½ x ½; semi-natural spring with concrete trough 3 x ½ x 3; permanent; semi-cultivated loamy soil; rock debris, concrete and mud; trough crowded with algae, and overflow; often stirred, 495.

> 2 x 1½ x 1½; 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 x 1 x 1/100; probably permanent spring, excavated, slowly flowing (abt. ½ m²/h); loamy soil, semi-cultivated; muddy (groundwork), without vegetation; 490.

743A! — pool (3 m), 24.I.1964; 2 x 1 x 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 x 60 x 1½; permanent and natural?; semi-cultivated beach deposits near shore; muddy, with *Chara, Nitella, Eichhornia* and waterlilies; somewhat greenish, ?100-300.
MARE NOIRE, near Étang Noir, 1.II.1964. (Pl. XXVIa)
50 × 50 × 1; permanent? and natural in sink-hole; semi-cultivated limestone; muddy, crowded with Chara, Nitella, waterlilies, grasses and Cyperaceae; 12.

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.

>10 × 1½ × ½; in swampland some 50 m wide; limestone debris; muddy, crowded with grasses, Cyperaceae, Chara, waterlilies, and a few Acrostichum; 1165.

MARE MÉDECINÉ, 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.

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.

MANGLES DE FOLLE ANSE, S of Saint-Louis, 31.I.1964. (Pl. XXVb)
Open water in swamp forest of several km², about ½ m deep; Pterocarpus officinale, almost no algae; 245.

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.

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.

— 1.II.1964; 5 × 2 × ½, 100 m upstream 756; very muddy with some Chara; abt. 750.

Îles des Saintes

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.

TERRE-DE-HAUT. MARE HAUTE (40 m), 6.II.1964.
15 × 15 × ½; semi-permanent, dug; andesite detritus. meadow-like; muddy, considerable growth of algae and waterlilies; slightly polluted by cattle, 70.
Dominica (Pl. XXII)


5 × 2½ × 1; cemented basin with Victoria regia (planorbis snails, waterstriders); tapwater, 90.

847* Portsmouth River at bridge, 15.VII.1967. (Pl. XXIIb)

> 50 × 3 × ½; slowly flowing streamlet, almost without pools; very few small algae (fishes, shrimps, snails, waterstriders); 80.

848 Rupert canal, NW Portsmouth, 15.VII.1967.

> 50 × 2 × 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 × 2 × ½; 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 × 2 × ½; semi-permanent pool in rapidly flowing streamlet; andesite; very few algae; 17.

769* Rivière Salée, Petit Bourg, at sugar factory, 10.II.1964.

> 100 × 15 × 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 × 4 × ½; largest pool in rather rapidly flowing streamlet, semi-permanent; andesite, semi-cultivated; rocky with very few small algae; 210.


1/5 × 1/5 × 1/5; temporary, puddle in limestone; turbid, yellowish green, 1945.


> 20 × 2 × ½; 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 × 2 × ½; almost stagnant; semi-cultivated area (fishes); turbid, abt. 71500.

Saint Lucia


> 10 × 5 × 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. XXVIIb)
>20×10×½; 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.
>100×50×½; 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)
100×60×2; 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. XXVIIa)
>100×½×1/10; 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)
>10×1×1/10; rather rapidly flowing streamlet with pools as deep as ½ 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.

>100×½×½; 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.
5×4×½; cemented pool constructed 2 years ago; some decay, few algae, waterlily; turbid and yellowish, 28.

5×4×1; cemented basin in garden; crowded with waterlilies, *Nelumbo, Chara* and algae; 640.

100×25×1; 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 x 30 x 1/4; 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 x 30 x 1/4; 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 x 1 x 1/20; rapidly flowing from limestone debris; some small algae (amphipods and shrimps); 210.

869A! — pool, 6.VII.1967; 5 x 1 x 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 x 1 x 1/4; 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 x 10 x 1/2; mouth of river with swampy borders, floating algae, grasses and sedges (fishes, shrimps); eurihaline habitat, 150.

Grenada (Fig. 19)


3 x 3 x 1; semi-permanent; andesitic rock, semi-cultivated; muddy cattle pond in part covered by duckweed; 255.

659A — 8.VII.1967; concrete cistern 3 x 3 with narrow opening, water about 1/2 m deep; coating of algae only; 350.

660!  **Corinth River, La Sagesse Great River** (80 m), 25.I.1955.

> 50 x 1 x 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.

1/2 x 1 x 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 x 300 x > 737; volcanic rock; muddy borders with grasses, sedges and few waterlilies; slightly turbid; 23°C, 110.


> 5 x 2 x 1/4; pool in rivulet below fall of about 2 m; no vegetation; 120.
> 30 × 10 × \( \frac{1}{4} \); 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 × \( \frac{1}{4} \); algae; abt. 200.

750 × 10 × ?2; drainage canal of mangrove swamp; recently dug; muddy sand near *Rhizophora*, some decay of *Thalassia*; 13,100.

MINERAL SPRINGS near River Sallee, 2 km NNW Lake Antoine (30 m?), 9.VII.1967.
71 × 1 × ?2; largest spring with narrow opening of abt. \( \frac{1}{2} \) 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**

LAMBEAU RIVER at Stockfarm bridge, 15.1.1955.
> 100 × 2 × \( \frac{1}{4} \); 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, 15.1.1955.
> 50 × 20 × \( \frac{1}{4} \), stagnant part of rivulet behind sandy bar 40 m from shore; very muddy, roots (*Uca*); turbid, 34°C, 1600.

FRENCHMAN'S RIVER near Speyside (200 m), 18.1.1955.
> 2 × \( \frac{1}{4} \) × 1/10; rapidly flowing rivulet with pools, semi-permanent; volcanic rock; very small algae; 165.

LITTLE TOBAGO. CISTERN (50 m), 18.1.1955.
\( \frac{1}{2} \) × \( \frac{1}{5} \) × 1/50; temporary, cemented cistern; some leaf decay; brownish, 225.

**Trinidad (Fig. 20)**

RIVER NEAR FOUR ROADS, 7.V.1936; 30. [2 : 20; 4 : 37]

POOL BETWEEN FOUR ROADS AND TETERON BAY, 7.V.1936; 40. [2 : 20; 4 : 37]

TAMANA BAT CAVE water track (230 m), 9.1.1955.
> 40 × \( \frac{1}{4} \) × 1/20; rapidly flowing near spring (about 500 l/h); limestone; rock debris, sinter deposits, bat faeces, no vegetation (dusk); 24°C, about 100.

AR IPO CREEK, Aripo River system (700 m), 30.1.1955.
> 3 × 1/10 × 1/20; pool in rapidly flowing water track, semi-permanent; well-wooded limestone; hepatics, sinter; 23°C, 110.
ARIPO CAVE pools (800 m), 30.I.1955.
1 x 1 x 1; two pools in limestone cave 200 from entrance (dark); 20°C, 105.

NORTH COAST ROAD RIVULET near La Vache Bay (200 m), 29.I.1955.
?1 x 5 x 1/10, semi-permanent, rapidly flowing; metamorphic rocks; shrubs, ferns and grasses with rock debris; abt. 100.

>20 x 3 x 1, quiet part in rather rapidly flowing river; cultivated clayish soil; muddy, almost without vegetation; turbid, 140.

BAMBOO GROVE Fish Experiment Station, Control Pond, 29.I.1955.
80 x 30 x 1; unstocked fish pond, sometimes cleaned; clayish soil; muddy with floating algae; turbid, slightly brownish, 26–28°C, 135.

2 x 1 x 1; concrete tank; algae, Eichhornia and some Utricularia; fresh.

>20 x 20 x 3–7; cavern water in limestone cave with tidal movements; rock, mud, mould, no algae (dark; impoverised marine fauna); 11,460.

NARIVA RIVER, at bridge, behind bar of Cocos Beach, 17.I.1964.
>100 x 30 x 3; drainage of Nariva Swamp, almost stagnant, permanent; muddy with Rhizophora, on dead branches abt. 2 m deep with small algae (athecate hydroids); 2000.

NARIVA RIVER — at mouth, S of Cocos Beach, 17.I.1964; ?100 x 10 x 1; tidal movements; muddy sand, on Rhiz.; euryhaline habitat.

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. 76000.

ICACOS SWAMP, 2½ km from S coast, 16.I.1964.
>20 x 1 x 1; ditch in muddy swamp with grasses, Cyperaceae and Ruppia, treated with oil for mosquito control; 4100.

>50 x 20 x 1; semi-permanent pool in well-wooded area with lots of plant decay; 13.

>5 x 2 x 1, semi-permanent in asphalt; blackish mud with grasses and very few algae; brownish, 130.
Los Testigos

31. Tamarindo. Pozo del Puerto Real, 15.VI.1936; 95. [I : 28; 2 : 5]
34. Tamarindo. Puddle on Morro Grande (200 m), 16.VI.1936; 15. [I : 28; 2 : 5]

Margarita (Fig. 21)

11. Aljibe de la Laguna Dulce, Macanáo, 20.V.1936; 55. [I : 28; 2 : 3]
12. Poza Baranca, Manglillo, Macanáo, 20.V.1936; 120. [I : 28; 2 : 3; 52 : VIIb]
13. Estanque Lató, Boca del Río, Macanáo, 20.V.1936; 70. [I : 28; 2 : 3]
16. Manantial de Las Aguas Saladas, San Juan, 11.VIII.1936; 4400. [I : 28; 2 : 3, 21]
17. Toma de Agua del Encañado, San Juan, 13.VII.1936; 270. [I : 28; 2 : 4, 21]
21. Toma de Agua de La Asunción, 6.VII.1936; 50. [I : 28; 2 : 4, 21]
22. Río Asunción, W of La Asunción, 3.VII.1936; 120. [I : 28; 2 : 4]
26! TOMA DE AGUA DEL VALLE, 4.VII.1936; 60. [I : 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. [I : 28; 2 : 5]

Coche
8 POZA DE LA REPRESA, El Guamache, 25.VI.1936; 930. [I : 28; 2 : 3]

Cubagua
9 POZO DE LA RANCHERÍA, NW Cubagua, 21.V.1936; 1550. [I : 28; 2 : 3]

Blanquilla
35 POZO DE VALUCHU, 21.VII.1936; 1450. [I : 28; 2 : 5]
36 POZO DE LA PLAYA DEL JAQUE, 22.VII.1936; 1650. [I : 28; 2 : 6]
37 POZO DE LA CASA, Cocotería del Jaque, 22.VII.1936; 840. [I : 28; 2 : 6]
38 POZA DE AGUADA, N of El Jaque, 22.VII.1936; 970. [I : 28; 2 : 6; 52 : VIIa]

Orchila
39 HUESPÉN. POZO GRANDE, W Huespén, 24.VII.1936; 1340. [I : 28; 2 : 6]
40 HUESPÉN. POZO CHIQUITO, W Huespén, 24.VII.1936; 190. [I : 28; 2 : 6]

Los Roques (Pl. XXX)
41 GRAN ROQUE. POZO DE LA VACA, 25.VII.1936; 2100. [I : 28; 2 : 6]
42 GRAN ROQUE. POZO DE LA CABECERA, 26.VII.1936; 3650 [I : 28; 2 : 6] (Pl. XXXb)
43 CAYO DE AGUA. PUDDLE, 26.VII.1936; 1350. [I : 28; 2 : 6]

Bonaire (Fig. 22-23; Pl. XXXI – XXXVI)
44 POS BRONSWINKEL, Nat. Park Washington, 27.III.1937; 530. [I : 28; 2 : 6, 21] (Pl. XXXIIIa)
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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.
44Aa! — 23.VIII.1955; 20 m from 44, percolating from below big boulders; sand and mud, some algae; ?500.
44Ac! — 18.III.1970; very little water from below big boulder; no algae; 460.
44B! — gutter of overflow, 23.VII.1955; 5 x 1/5 x 1/100; rock debris and mud; ?560.
44Ba! — 20.IX.1967; 7550.
44C! — sheet of water from overflow, 19.11.1970; 600.
45 Dos Pos, 27.11.1937; 450. [1 : 28; 2 : 7] (cf. Pl. XXXVb)
45A — trough, 26.X.1968; 2 1/4 x 1 1/2; 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; 3 x 1 1/2 x 2; turbid, frequently stirred, 2800.
47d — 22.IX.1967; 1/2 x 4 1/2 x 10; turbid pool with carrion in shade of 5 1/4 m deep fissure; 28°C, 4200.
47e — 26.X.1968; bad-smelling blackish mud; 4280.
47f — 3.III.1970; 1 1/2 x 2 1/2; clear, 3900.
47g — 16.VIII.1973; 1/2 x 1/2 x 1/2; 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 1/h; 28 1/2°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 x 20 cm, est. at 900 1/h; muddy leaf decay in shade, a few algae; 28 1/2°C, 400.
48h! — 26.X.1968; very little water; 480.
48i! — 8.III.1970; 400.
48A! — cemented gutter feeding cisterns, 11.IX.1948; 425. [4 : 40]
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48Aa! — 8.IX.1967; crowded with roots and 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 x 1 x 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. 450.
48Bd — Bak di Fontein, open cemented cistern, 11.IX.1948. \([4 : 40]\)
48ba — 26.II.1949; abt. 500. \([4 : 40]\)
48Bb — 8.IX.1967; 2 x 1 x 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. 450.
48Bd — 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.
48Dc! — 17.VIII.1973; 390.
48B! — 11.IX.1948; abt. 500. \([4 : 33,41]\)
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.
48E — overflow of cistern in Hofje; 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 Ich, S of Kralendijk, 14.XI.1936; 160. \([1 : 28; 2 : 9]\)
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; \(1/4 \times 1/4 \times 1/4\); 710.
53f — 19.VIII.1955; \(1/4 \times 1/4 \times 1/4\); 2380.
53g — 4.XII.1963; \(1/4 \times 1/4 \times 1\); 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 Chikiteo, 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.I.1949; 105. [4:34,41]
54d  — 24.III.1955; wet mud only, filled up by detritus.
54e  — 19.VIII.1955; 1 x 1 x 1/10 short living pool; no algae; slightly turbid and
greyish, 380.
54f  — 4.XII.1963; 1 1/2 x 1 x 1/4; deepened again, sink-hole next to 53; 220.

55  Pos Calbas, Lima, 1.IV.1937; 880. [I:28; 2:9, fig. 1]
55a  — 8.IX.1948; 1510. [4:34,42]
55b  — 14.IX.1967; same; 1630.
55c  — 18.III.1970; 2050.

56  Cueva di Watapana, in cave, 1.IV.1937; 1500. [I: 28; 2:9, 21, fig. 2]

57  Pos Caranja, Lima, 14.XI.1936; 2600. [I:28; 2:10, 21]
57a  — 31.III.1937; 2500. [I: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.
57g  — 23.IX.1967; 3980.
57h  — 19.III.1970; 1700.
57i  — 15.VIII.1973; 4750.

58a  — 3.IX.1930; est. 600. [2:11]
58b  — 1.IV.1955; 2 x 1 x 1/2; 50 cm below limestone flat, entrance 50 x 45 cm; 740.
58c  — 18.VIII.1955; 1100.

59  Pos Oranjepan, 26.III.1937; 1500. [I:28; 2:11]

60  Pos Lansberg, S, 26.III.1937; 370. [I:28; 2:11, IIa]
60a  — 8.VI.1930; est. 400. [I: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. [4:33,49]

374  Puddle at Rincón, 26.II.1949; 85. [4:33,39]

375  Oeroesjan Blanco (Cueba di Barbadera), 3.IX.1948; 1450. [4:33,50]

376  Pos Kraendijk, 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]
Sheet of water, Kralendijk, N, 3.IX.1948; 90. [f: 33, 41]

Sheet of water, Kralendijk, N, 24.II.1949; 195. [f: 33, 41]

Pos BACA GRANDI, 2.IX.1948; 655. [f: 34, 41]

379a  16.IX.1948; 1260. [f: 34, 41] (Pl. XXXIIa)

379b  27.XII.1948; 180. [f: 34, 41]

379c  21.II.1949; 1820. [f: 34, 41]

379d  2.IX.1949; 2180. [f: 34, 41]

379e  26.III.1955; thick mud, crowded with *Heleoccharis*, remains of *Chara*.

379f  19.VIII.1955; 9 x 9 x 1/4; muddy crowded with *Hel.*; some *Chara*; 630.

379g  15.VIII.1973; little water; *Hel.* and *Chara*, *Stemodia*; 2540.

379h  17.III.1970; puddles of rainwater on terrace; fresh. (Pl. XXXIIb)

Pos CARANJA GRANDI, 23.IX.1930; abt. 73000. [f: 42]

380a  21.II.1949; 3370. [f: 34, 42]

380b  26.III.1955; 50 x 20 x 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.

Pool near Punt Vierkant, NE, 5.IX.1948; 210. [f: 34, 42] (Pl. XXXIIa)

Salinja di Punt Vierkant, E, 5.IX.1948; 3812. [f: 34, 42, 11a]

382a  27.III.1955; ?50 x 20 x 1/4; temporary sheet of water; limestone with tufa deposits covered by *Chara, Conocarpus* trees (innumerable *Cyprinodon deabornii*); rather turbid, brownish yellow; 5400.

382b  1.IV.1955; 20 x 15 x 1/10; *Chara*, dried *Ruppia* (crowded *Cypr.)*; 8800.

382c  5.IV.1955; 10 x 2 x 1/20; (*Cypr. soup)*; 22,900.

382d  6.IV.1955; 4 x 1 x 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. [f: 42]

382Aa  15.IX.1948; 4370. [f: 34, 42]

382Ab  1.IV.1955; wet mud 27 cm below surface, entrance 16 x 16 cm with rim, coating of algae.

382Ac  18.VIII.1955; only a little water 1/4 x 1/4 x 1/5; 2300.

Pos SOEDESTSOED, SE of Witte Pan, 21.IX.1948; 370. [f: 34, 42]

Pos FLAMBAAI, near Zuidpunt, 31.IX.1948; abt. 1200. [f: 43]

Tanki Maraka, N of Soebi Blanco, 7.IV.1955.

30 x 25 x 1/2; dug, temporary; loamy soil with limestone; very muddy, abundant *Chara*; turbid, abt. 7500.
Sabana Kralendijk, S., 16.IV.1955. (Pl. XXXIb)
780 × 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 × 1/4, possibly dry few weeks before; feltly patches of algae; 54,000.

628A — next to 628a; 22.VIII.1955; 40 × 30 × 1/4, dry a few weeks before?; feltly patches of algae; 11,900.

628B — 17.III.1970; shallow pools, almost dead Chara and young Ruppia; 18,000.

40 × 39 × 1/2; semi-permanent, in contact with cavern water; limestone and detritus; muddy, algae; 6200.
s.n. — 3.XII.1930; 15 × 10 × 1/4; abt. ?8000.

30 × 20 × 1/4; temporary, low limestone terrace between Conocarpus; muddy, growth of Chara, bordered by Heleocharis; 430.

Small puddle in wet mud of three abandoned, artificial wells, 1 m below surface of limestone plateau, no vegetation; 190.

685 Tanki South of Soerebon, 6.XII.1963. [52 : VIIIb]
50 × 40 × 1/4; semi-permanent low part of limestone plateau between Conocarpus; somewhat muddy, coating of small algae; 675.

1 × 1/2 × 1/4; 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 1/4 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.
1/2 × 1/2 × 1/4; about 1/4 m below surface; algae (tadpoles of Puludicola brachyops); turbid, 1640.

886 Pos Garati, E Bacuna, S, 10.IX.1967.
2 × 2 × 1/4; 1 m below surface of terrace, artificial, made accessible for goats; abundant blue-algae; 1740.
112

887 Pos Garati, E Bacuna, 250 m N of 886, 10.IX.1967.
1½ × 1½ × ⅛; about 1 m below surface, artificial goat well with cemented rim; abundant blue-algae (Potamopyrgus parvulus); 2170.

1 × ½ × 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.
3½ × 1½ × ⅛; in cavern below limestone plateau near shore, opening of 1 × ⅛ m with cemented rim, frequently stirred by water-drawers; 27½° C, 400.

889A — pool, 22.IX.1967; 1 × 1 × 1/5 acting as trough; very little algae, goat droppings; abt. ?1000.

890 Tanki di Oliver Coffie, Playa Grandi, 2.IX.1967.
20 × 5 × 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 × 15 × ⅛; semi-permanent, dug; very muddy with single tree of Prosopis juliflora, floating flabs of algae; abt. ?3000.

898a — 18.III.1970; 15 × 15 × ⅞, 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.

3 × 3 × 1; cemented cistern for rainwater; 120.

899a — 17.III.1970; 2 m deep water, coating of algae; 130.

899b — 18.III.1973; ¼ m deep water, 2½ m below rim; flocculous algae; 80.

900 Pos Roshikiri, 800 m W of Spelonk, 500 m from shore, 27.X.1968.
3½ × 2 × ⅞; cavern water 5 m below surface of limestone terrace; muddy rock detritus with coating of algae (Coenobita); turbid, 10,900.

901 Pos di Salinia di Cai (2), 3 m NE of 882, 30.X.1968.
1½ × 1½ × ⅛; cut in limestone; muddy, flabs of algae; 2850.


902 Pos di Salinia di Cai (3), 3 m E of 901, 30.X.1968.
1 × 1 × 1/20; cut in limestone; muddy, few algae, goat well; 4030.

902a — 9.VIII.1967; wet mud with some Heleocaris.

903 Bak di Witte Pan, 30.X.1968.
1½ × 1 × 4/5; cemented cistern; possibly recently filled by rainwater. sk.

2½ × 2½ × ⅛; 1 m below rim of cemented cistern; 140.
?100 × 50 × ?1; temporary, filled Nov.1969; turbid, greyish brown, 100.

BAK DI WASHINGTON, near gate (2), 17.III.1970.
1½ × 1½ × 1½; ½ m below rim of cistern for rainwater, in part covered by zinc plate; 190.

932a — 18.VIII.1973; ¼ m water, dirty, covered with bacteria; 200.

Drying inundated mudflat; flabs of algae caught in branches of Laguncularia, Ruppia (innumerable Heterocorixa, Uca, and dragonfly larvae of Panta-la); 9040.

SALINJA MATJIS, SE part, 17.III.1970. (Pl. XXXVIa.)
>100 × 50 × ½; inundated mudflat; dense Ruppia (innumerable Heterocorixa and Uca); 9440.

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.

POS DI DAM GRANDI, N of Lac, 12.III.1970.
4 × 3 × 1 with sheet of water 50 × 30 × ½; muddy, without vegetation (abundant Tropisternum beetles); brownish, 50.

½ × ½ × 1/20; seepage among coral rubble; muddy and dirty (Uca and Coenobia); 15,470.

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]
61b — 7.IX.1948; 620. [4 : 34, 43]
61c — 20.VIII.1955; 24 × 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, IIIb]
63d — 1.IX.1949; 12,410. [2 : 34, 43]
63e — 20.VIII.1955; 15 × 10 × ¾; 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]

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]


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 Koeneokoe 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]
71c! — 27.I.1970; walled in spring of about ½ m³/h, almost dark (many Metaniphargus, several Cyathura); 240.
71A Bak Ariba di Boca Spelonk, 13.X.1936; 7310. [1: 13]

72a! — 29.VIII.1949; 365. [4: 35, 44]
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); 7210. [2: 14]

73 Grot van Hato, Kamber di Awa, 16.IX.1936; 160. [1: 28; 2: 14]
73a — 5.X.1936 (dry in 1948 and 1963); 160. [1: 28; 2: 14]
74!  **BRON CAJOEDA**, Hato, 1.X.1936; 320. [I : 28; 2 : 14, 21]
74a  — 5.IX.1949; 1130. [f : 35, 44]
74b  — 26.IX.1948; abt. 500 [f : 45]
74c  — 27.VIII.1955; 1/5 x 1/10 x 1/50, seepage near spring, altered drinking place; 29°C, 490.

75  **TANKI MAMAJA**, Hato, 6.X.1936; 450. [I : 28; 2 : 14]
75a  — 11.X.1936; 380. [I : 28; 2 : 15, 21]

76!  **BRON WANDONGO**, Hato, 6.X.1936; 230. [I : 28, Vb; 2 : 14]
76A! — 6.X.1936; 230. [I : 28, Vb; 2 : 14]
76Aa! — 11.X.1936; 240. [I : 28; 2 : 15, 21]
76B  — 11.X.1936; 250. [2 : 15]
76Ba! — 15.X.1967; a little flowing water with *Chara* and *Helelocharis*; abt. 7200.
76C  — 27.VIII.1955; 2 x 1 x 1/4; cemented trough; muddy leaf decay; 29.5°C, 7250.
76Ca! — 15.X.1967; treated with oil; 7150.
76D  — 27.VIII.1955; seepage from 76C; rock debris; 28.5°C, 250.
76Da! — 15.X.1967; 150.

77!  **BAK RINCÓN**, W of Hato, 11.X.1936; 150. [I : 28; 2 : 15, 21]
77a  — 31.XII.1963; 5x3x1$, 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. [I : 28; 2 : 15]

79!  **BRON SAN PEDRO**, S, gutter, 22.X.1936; 360. [I : 28; 2 : 15, 21] (Pl. XLlc)
79a! — spring, 1.XII.1948; 440. [f : 35, 45]
79b! — spring, 5.III.1955; 1 x 1/4 x 1/20; rather rapidly flowing, abt. 2 m$^3$/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 m$^3$/h; 400.
79e! — spring, 7.XI.1968; 330. (21.XI.1968; 360)
79A! — gutter, 22.X.1936; 360. [f : 45] (cf. Pl. XLlc)
79B  — trough, 13.II.1949; 390. [f : 35, 45]

80!  **BRON SAN PEDRO**, N, 22.X.1936; 360. [I : 28; 2 : 15]
80a! — 1.XII.1948; 600. [f : 35, 45]
80b! — 5.III.1955; 1 x 1/4 x 1/3; pool at spring; sandy debris, decay; 29°C, 325.
80e  — 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. [I : 28; 2 : 15]
116

80Aa — 13.II.1949; 495. [4: 36, 45]
80Ab — 11.III.1949. [4: 46]
80Ac — 5.III.1955; 1 × 4 × 1; almost stagnant pools of cascade; ?450.
80Ad — 28.X.1963; 500.

81 Pos DI WANGA, Midden Curaçao, 9.XI.1936; 260. [I: 28; 2: 15, 21]

82 Pos EUROPA, Dokterstuin, 27.X.1936; 470. [I: 28; 2: 16]
82a — 11.II.1949; 210. [4: 36, 47]
82b — 22.X.1968; 830.

83 Pos ARIBA, Dokterstuin, 27.X.1936; 710. [I: 28; 2: 16]
83a — 29.X.1936; 620. [2: 16, 21; 4: 47]

84 Pos DI HOFJE CHIKITOE, St. KRUIS, 24.X.1936; 270. [I: 28; 2: 16]

85 TANKI St. KRUIS, 24.X.1936; 430. [I: 28; 2: 16]

86/ Pos SORSAKA, 10.XI.1936; 600. [I: 28; 2: 16]

87/ Bon di Rooi SÁNCHEZ, Knip, 11.XI.1936; 2100. [I: 28; 2: 16; 52: X]

88/ Pos Shimarrón, Rooi Beroe, Savonet, 10.XI.1936; 3500. [I: 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. [I: 28; 2: 26]

90 Puddle, Westpunt, 27.X.1936; 44. [I: 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.


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.
117

395/1 BRON SAN PEDRO, S Hofje, 13.II.1949; 405. [4: 35, 45]
395a/1 — 3.III.1955; 72 x 1/3 x 1/10; slowly flowing spring abt 4/5 m³/h, 5 m from 79; sandy debris, leaf decay, algae; 30°C, 460.
395b/1 — 15.X.1967; 7310.
395A — pool, 5.III.1955; semi-permanent overflow, muddy; polluted, abt. 7500.

396 TANKI DI TERA CORÁ, Middle Curaçao, 20.VIII.1948; 335. [4: 36, 46]
396a/1 — 1.XII.1948: 125. [4: 36, 46]
396b/1 — 29.I.1949; abt. 400. [4: 46]
396c/1 — 11.II.1949; 480. [4: 36, 46]
396d/1 — 2.III.1955; 15 x 15 x 1/2; 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 — 1.XII.1948: 125. [4: 36, 46]
397b/1 — 29.I.1949; 240. [4: 36, 46]
397c/1 — 11.II.1949; 280. [4: 36, 46]
397d/1 — 15.IV.1949; 510. [4: 36, 46]
397e/1 — 2.III.1955; 30 x 20 x 1/2; 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/1 — 22.V.1955; wet mud without plant cover; 32°C (surface)–39°C (below) at 15 h, 230. (cf. Pl. XLIa)
397g/1 — 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 x 4/5 x 1/2; trough near 12 m deep well; muddy decay; turbid, 795.
822a/1 — 22.XI.1963; wet mud only.
3 x 1/2 x 1/4; trough near 9 m deep well; some mud, sinter; algae and some Chara; 620.
891 HOFJE SAN PEDRO S, 15.X.1967.
20 x 10 x 1/2; sheet of water on limestone terrace from 395 (cf. 395A), short-living; mud with algae (corixids, Paludicola tadpoles); abt. ? 800.
891a/1 — 7.XI.1968; some water with algae; abt. 800.
30 x 15 x 1/4; temporary mudpool, crowded with Nymphaea, Najas and duckweed; 470.
Tanki di Malpays, upstream of dam, 26.X.1967. (Pl. XLIIb)
?30 x 20 x 1; muddy water without vegetation; turbid, yellowish brown, 590.

10 x 5 x 1/2; muddy pool in contact with 893 after rain; some Najas and algae; 510.

Tanki di Malpays, near dam 2 km upstream, 26.X.1967.
100 x 20 x 1/2; grassy plain with Verbenaceae, clumps of algae (tadpoles); 310.

Pos Awa di Oostpunt, E, 21.IX.1968.
?1 x 1 x 1/2; 1 m below surface of limestone flat; 340.

211/2 x 211/2 x 1; cemented, 3 years old; 920.

914a
— well, 22.II.1970; 2300.

Tanki di Boca Braun, W of Boca Grandi, 27.III.1970. (Pl. XLIIa)
20 x 15 x 1/2; temporary pond behind recent dam; very muddy, almost no vegetation (Hydrophyllid beetles and Bryozoa on pieces of rock and wood); 200.

Tanki di Molino, Santa Cruz, 20.II.1970.
> 20 x 5 x 1/2; swampy area draining by culvert into the Salina; sandy mud with rock debris, masses of algae (many fishes); brownish, 1900.

15 x 15 x 11, temporary, dug; very muddy, almost no vegetation; recently filled by rain; 30.

Aruha (Fig. 27; Pl. XLVI – IL)

Puddle in cavern, Quadirikiri, 9.II.1937; 80. [I : 28; 2 : 17]

Pos di Fontein, 23.XII.1936; 400. [I : 28; 2 : 17, 21]
— 9.XI.1963; 1 x 1 x 1/2; renewing cavern water in well; sandy mud; very few algae, shady (many Metaniaphargus); 380.

Fontein, pond, 23.XII.1936; 400. [I : 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 x 10 x 1/2; overflowing in garden; abundant algae, few waterlilies (many Mollienia sphenops vandepolli); 510.
93d
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 x 1/2 x 4; overflow of pond, drainage of cultivated soil; 425.
94  POS GRANDI, Rooi Lamoenci, 12.II.1937; 960. [I : 28; 2 : 17]
95  POS W OF ROOI LAMOENCHI, 11.II.1937; 720. [I : 28; 2 : 17]
96  TANKI CHIKITOE, W of Rooi Lamoenci, 12.II.1937; 1570. [I : 28; 2 : 17]
97  TANKI MON PLAISIR, Oranjestad, 15.XII.1936; 60. [I : 28; 2 : 17, IVa]
98  TANKI DI HOFJE WESTPUNT, 9.XII.1936; 80. [I : 28; 2 : 17]
99  TANKI DI GOUDMIJN TIBUSJI, 9.XII.1936; 170. [I : 28; 2 : 18]
100 TANKI LEENDERT, 16.XII.1936; 35. [I : 28; 2 : 18]  
100A — 8.VIII.1962 (L. J. van der Steen); 8 x 5 x 1/10, short-living muddy pool; algae with Chara.
101 TANKI ROOI CANASHITO, 7.XII.1936; 3500. [I : 28; 2 : 18]
102! POS DI NOORD, spring, 30.XII.1936; 3250. [I : 28; 2 : 18, 21]
102A! — pools, 30.XII.1936; 3300. [I : 28; 2 : 18]
102Aa! — 28.VI.1930; est. abt. 3500. [2 : 18]
102B! POS di Noord, 12.XI.1963; > 10 x 1 x 1/4 rapidly flowing after heavy rains; 200.
103! ROOI BRINGAMOSA, brooklet, 6.I.1937; 3150. [I : 28, VIb; 2 : 18, 21]
103a! — 18.1.1949; 4910. [I : 28; 2 : 18, 21]
103c! — 5.XI.1963; same (many Mollienesia); abt. ?5000.
103B! — pool, 5.XI.1963; 6080.
104! BRON DI ROOI PRINS, 9.I.1937; 1300. [I : 28; 2 : 18, 21] (Pl. ILb)
104a! — 26.VIII.1949; 1345. [I : 28; 2 : 18, 21]
104b! — 12.VIII.1955; same watervein in gravel and coarse sand as deep as 10 cm; 30.5°C, 71780.
104A! — waterflow, 9.I.1937; 1300. [2 : 18]
104Aa! — 26.VIII.1949; 1345. [I : 28; 2 : 18, 21]
104Ab! — 12.VIII.1955; (1 x 1/5 x 1/20; rapidly flowing abt. 2/3 m³/h, semi-permanent; rock debris, algae; 31°C, 1780.
104Ba — 4.VII.1930; abt. ?1000. [2 : 19]
104Bc! — 12.VIII.1955; ?3 x 3 x 1/4, slowly overflowing pool below cascade; algae (many Mollienesia); 31–36°C, 1780.
104C! — puddle, 20 m downstream, 12.VIII.1955; 1/4 x 1/4 x 1/4; temporary, sandy mud; turbid, abt. ?3000.

400 TANKI W OF HOOIBERG, 31.XII.1948; 60. [I : 28, 36, 47] (Pl. XLVIII)
400b-c — 18–19.I.1949; 18. [I : 28, 36, 47]
400d! — 10.I.1949; 43. [I : 28, 36, 47]
120

400e — 11.V.1955; very little water in dried up pool; no vegetation: 120.

401 TANKI DI CAS ARIBA, Santa Cruz, 30.XII.1948; 18. [4: 37, 48] (Pl. XLVIIa)
401a — 18.I.1949; 35. [4: 37, 48]

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 × ?1, cavern water 20 m from sea; no vegetation (dusky); 1850

403 TANKI DI ROOI KABAAL, 28.XII.1948; 1860. [4: 37, 48]
404 TREE IN ROOI KABAAL, 28.XII.1948; 630. [4: 37, 48]
405 PUDDLE IN ROOI JUDIT, 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).

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.
EAGLE COLONY SHEET OF WATER, 26.IV.1955.
2 × 1 × 1/20; drying sheet of water on limestone; muddy, with some small algae; 330.

— 28–29.IV.1955; moist to almost dry mud.

ROOI ANDICURI, SW Seroe Lucia, 11.V.1955.
> 3 × 1 1/4 × 1; chain of small and large pools, often slowly flowing, semi-
permanent; volcanic rock detritus; some algae with Enteromorpha; 3130.

> 50 × 15 × 1 1/2; semi-permanent pond connected with 640 after rains; sandy
mud without vegetation excl. coating of algae; 3500.

SALINIA BALASHI (cf. Sta. 1013), 1.V.1955.
> 10 × 1 × 1/4; small and large pools on mudflat, temporary; algae and small
Ruppia; 3500.

TANKI VADER PIET, 8.VIII.1973. (Pl. XLVIIIb)
20 × 15 × 1/2; temporary pool, dug in weathered dioritic rock; muddy,
without vegetation; yellowish brown, 78.

La Goajira

POZO DE MACARALPAO, NW Castilletes, 14.I.1937; 890. [I : 28; 2 : 19]

POZO DEL CABO DE LA VELA, 22.I.1937; 65. [I : 28; 2 : 20; 52 : XIIib]

POZO DEL ARROYO DE APARÁ, El Cardón, 27.I.1937; 85. [I : 28; 2 : 20]


Paraguaná

POZA DE LA COMPAñÍA, Carirubana, 15.II.1937; 140. [I : 28; 2 : 19]

POZA DE SAN ANTONIO, E of Carirubana, 16.II.1937; 170. [I : 28; 2 : 19]

POZA SUPIDEO, E of Carirubana; 16.II.1937; 190. [I : 28; 2 : 19]

ESTANQUE DE MORUY, 18.II.1937; 50. [I : 28; 2 : 19]

ESTANQUE DE SANTA Fé, NE of Moruy, 18.II.1937; 120. [I : 28; 2 : 19]
110  **Estanque de Santa Ana**, 16.II.1937; 110. [I : 28; 2 : 19]

Venezuela (Aragua, D.F., Anzoátegui, Sucre)

1!  **Río Chuspa**, E. of La Guaira, 30.VII.1936; 105. [I : 28; 2 : 2]

2!  **Río Guanta**, N of Barcelona, 7.IV.1937; 290 [I : 28; 2 : 2]

3  Water in Bromeliads, Morro de Esmeralda, W of Carúpano, 10.VI.1936. [2 : 2]

4  **Estanque Arriba de Manglillo**, Chacopata, Araya, 26.VI.1936; 490. [I : 28; 2 : 2]

5  **Estanque Abajo de Manglillo**, Chacopata, Araya, 26.VI.1936; 200. [I : 28; 2 : 2]

6  **Estanque de Chacopata**, Araya, 27.VI.1936; 380. [I : 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 × 1 × 1/100; quickly flowing watertrack (cf. Sta. 553); 110.

626!  **Rancho Grande**, Tomo Segundo, Est. Biológico (1200 m); 17.III.1955. > 2 × 1 × 1/100; quickly flowing water; weathered shales with dense vegetation; abt. ?100.

920  **Jardín Botánico**, Laguna del Este, Caracas (1000 m), 10.XI.1968. Artificial pond with phanerogams and algae; 60.

921  **Jardín 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]
123

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.**
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The *locality references* are abbreviated as follow (*italics*):

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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)
Puerto Rico Plate V

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 Canaán, St. Croix. (Sta. 616; June 1955)
VIIa. East coast of Dog Island, west of Anguilla, showing a salt pond 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. 458.4a; 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. 542x; 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. 508g; 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 rapidly 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 Cunque, 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 “hofje”, but now – since this fruit garden has been abandoned – it is of significance only for bird-life. (Sta. 44c; 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 m³/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. 1946)
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 vegetation, 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 Curacao 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 Curacao 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 aesthetic point of view. Its high phosphate value led to the almost perfect demolition by the Mijmaatschappij 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 Curacao. (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)
XL1a. 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)

XL1b. The built-in well of Boca di Leeuw, with dr. W. D. Burbank 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)

XL1c. 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)

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 beside) 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)