STUDIES ON THE FAUNA OF CURAÇAO, ARUBA, BONAIRE AND THE VENEZUELAN ISLANDS: No. 4.

DESCRIPTION OF THE LOCALITIES

by

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A few localities in which collecting has been done in 1930 (cf. *Zool. Jb. Syst. 64,* 1933) are included without special numbering. A capital-letter after the station-number indicates a different habitat or a comparable habitat in another locality; an ordinary-letter indicates that the same habitat has already been studied before.

Other special information is given by:

Hummelinck, 1940: *Studies Fauna Curaçao 1.*

Key to the Fresh and Brackish Water Habitats, pp. 24—25.

Key to the Land Habitats, pp. 26—27.

Water Analyses (Cl′ mg/l, HCO_3′ mg/l, total hardness), p. 28.

Maps, pp. 42—57.

Photographs, tabb. Ia (Stat. 9, 29), Ib (Stat. 125—126), IIa (Stat. 26, 144), IIb (Stat. 137), IIIa (Stat. 162—163), IIIb (Stat. 169), IVb (Stat. 46, 194), Va (s. n. Pos Jatoe Largoe), Vb (Stat. 76—76A, 220), VIa (Stat. 226), VIb (Stat. 103), VIIb (Stat. 110), VIIIb (Stat. 115).

Hummelinck, 1933: *Zool. Jb. Syst. 64.*

Several Water Analyses (Cl′ mg/l and hardness), p. 315.

Photographs, figg. 5 (Stat. 199), 6 (s. n. Pos Oranjepan), 7 (Stat. 60), 9 (s. n. Pos Jatoe Largoe), 10 (s. n. Pos Shiki), 11 (Stat. 57), 14 (s. n. Pos Hoeba).

Baker, 1924: *Occ. Pap. Mus. Zool. Michigan 152.*

Several Descriptions, pp. 12—32.

Photographs, figg. 7 (near Stat. 212), 8 (Stat. 267), 11 (near Stat. 252A), 12 (Stat. 265), 13 (Stat. 217), 16 (near Stat. 185—185A).

FRESH AND BRACKISH WATER HABITATS.

A full-stop after the station-number indicates that, as a rule, 10 liter water has been sampled with a metal plancton-sieve of Kolkwitz (Paul Altmann, Berlin). The temperature-range, which may include the most common temperatures in the upper watersheet, is estimated in accordance with other observations in different circumstances; if a constant temperature could be expected, then only one value is given, which is the original observation, if not followed by a query-mark. The pH has been determined in the field with the colorimetric method of Czensny (Paul Altmann, Berlin).

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

NE Venezuelan Continent

1. **Río Chuspa,** E of La Guaira. 30.7.1936.
20 × ?2; very slowly streaming; permanent; natural; detritus, conglomerates and sandstone; mud; many algae and several phanerogams;
turbid, greyish; 29; 6,4—6,6.

2 **Río Guanta,** N of Barcelona. 7.4.1937.
2½ × ½; rather quickly streaming; permanent; natural; limestone and detritus; sandy-mud; rather many algae;
rather clear, somewhat greyish; 29?.

3 **Puddle in Bromeliaceae,** Morro de Esmerarda, W of Carúpano. 10.6.1936.
$^1/_{20}$ × $^1/_{30}$ × $^1/_{10}$; stagnant; temporary; natural;
clear, colourless; 27—29. (estimated at abt. 50 mg Cl/l)

4. **Estanque Arriba de Manglillo, Chacopata,** Araya. 26.6.1936.
30 × 20 × ?2; stagnant; dry for several months; dug and dammed; weathered chlorite-schists; chiefly clay; practically none?;
turbid or muddy, yellowish-brown; 28—32; 7,0—7,5.

5. **Estanque Abajo de Manglillo, Chacopata,** Araya. 26.6.1936.
30 × 20 × ?2; stagnant; dry for several months; dug and dammed; weathered chlorite-schists; chiefly clay; practically none?;
turbid or muddy, yellowish-brown; 28—32; 7,0—7,5.

6. **Estanque de Chacopata,** Araya. 27.6.1936.
30 × 25 × ?2; stagnant; dry for a few months; dug and dammed; weathered schists; sandy-mud; practically none?;
turbid, yellowish-brown; 28—32; 6,8—7,3.

7 **Poza de Chacopata,** Araya. 27.6.1936.
3 × 3 × ½; stagnant; dry for greater part of year; dug and dammed; weathered schists; muddy-sand; practically none;
muddy, yellowish-brown; 28—35. (est. at abt. 500 mg Cl/l)

Coche

8. **Poza de la Represa,** El Guamache. 25.6.1936.
2 × 1 × ½; stagnant; dry for several months; dug and dammed, 2 m; weathered schists and debris; clay; practically none; muddy, yellowish-brown; 28—35; 6,5—6,8.

Cubagua

9. **Pozo de la Ranchería,** NW Cubagua. 21.5.1936.
1 × 1 × ½; stagnant; probably permanent; dug in 1934, 2 m; limestone; chalky-mud and rock; practically none; slightly turbid, greyish; 28—30; 7,5—7,8.

Margarita

10. **Poza de la Laguna Dulce,** Macanao. 20.5.1936.
20 × 10 × 1; stagnant; probably dry for a few months; natural, deepened; weathered schists and detritus; mud; practically none; muddy, brownish-yellow, polluted by animals; 30—40—43.

11. **Aljibe de la Laguna Dulce,** Macanao. 20.5.1936.
1½ × 1½ × 1; stagnant; permanent; dug, 8 m, upper part cemented; weathered schists; rock and some mud; few algae; clear, colourless; 28—29.

12. **Poza Baranca,** Manglillo, **Macanao.** 20.5.1936.
10 × 8 × 1½; stagnant; probably dry for a short time; dug; detritus; sandy-mud and leaf-decay; practically none, *Mangifera*; very turbid, greenish-yellow; 30—36.

13. **Estanque Lato,** W of Boca del Rio, **Macanao.** 20.5.1936.
80 × 50 × ?3; stagnant; permanent; dug and dammed; detritus and schists-debris; sand and mud; few algae with some *Chara* and *Najas*; rather clear, colourless; 30—33; 6,8—7,1.

14. **Aljibe de Diego Aguilera,** San Antonio. 13.7.1936.
1½ × 1½ × 2; stagnant; permanent; dug about 1905, 6 m, upper part cemented; schist-debris and detritus; debris and mud; some algae; clear, colourless; 29; 7,9—8,1.

15. **Manantial de Güiri,** San Antonio. 13.7.1936.
1½ × ¼; rather slowly streaming, pool; permanent; natural, deepened; serpentine-schists; debris and sand; some algae; clear, colourless; 26; 6,9—7,1.

16. **Manantial de Las Aguas Saladas,** NNE of San Juan. 11.8.1936.
1 × ¼; slowly streaming, small pools; probably permanent; natural; metamorphic rocks; rock and sandy-mud; many algae, mosses with sinter; slightly turbid, greyish; 29; 7,6—7,9.

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

17. **Toma de Agua del Encañado,** San Juan. 13.7.1936.
1½ × ¼; rather quickly streaming, pool; permanent; natural; metamorphic rocks; sand, leaf-decay with sinter; some algae, *Clusia*; rather clear, colourless; 28; 7,9—8,1.

18. **Laguna Honda,** SE of Juan Griego. 16.5.1936.
20 × 30 × ?1; stagnant; probably permanent; natural; detritus with quartz; mud; many algae with *Najas*; sligthly turbid, greenish; 26—32; 6,9—7,1.

19. **Toma de Agua de Tacarigua.** 11.8.1936.
1 × ¼; rapidly streaming, turbulent; permanent; piped into basin; brickwork; small algae, mostly detached; clear, colourless; 26; 6,4—6,7.

20. **Aljibe del Río de la Fuente,** N of La Asunción. 11.5.1936.
1½ × 1½ × ?3; stagnant; permanent; dug, upper part cemented; weathered gneiss and schists; sand, debris and mud; algae; clear, colourless; 28—29; 7,4—7,6.

21. **Toma de Agua de La Asunción.** 6.7.1936.
½ × ¼; rapidly streaming, pools; permanent; natural; peridotite and serpentine; rock, plant decay; few algae; clear, colourless; 25; 6,8—7,0.

22. **Río Asunción,** W of La Asunción. 3.7.1936.
2 × ½; slowly streaming, pool; permanent; natural; debris of metamorphic rocks; debris and detritus; some algae, single *Najas*; clear, colourless; 26—28; 6,7—6,9.

23. **Río Asunción,** Puente de La Asunción. 11.5.1936.
1 × ¼; slowly streaming, pool; probably permanent; natural; schists and gneiss; rock and sand; very few algae; rather clear, greyish; 26—29; 7,9—8,1.

24. **Poza al Sur de Los Robles.** 27.5.1936.
15 × 10 × ?1½; stagnant; dry for a few months; dug and dammed; weathered mica-schists; sandy-mud and rock; very few algae, many *Pistia*; very turbid, greenish-yellow; 27—30; 6,7—7,1.

25 **Puddle in Bromeliaceae,** El Piache, SE of El Valle. 10.7.1936.
$^1/_{20}$ × $^1/_{30}$ × $^1/_{10}$; stagnant; temporary; natural; clear, nearly colourless; 26—32. (est. at abt. 30 mg Cl/l)

26. **Toma de Agua del Valle.** 4.7.1936.
3 × ½; streaming, pool; permanent; natural, cemented wall; antigorite-rock; rock and mud; rather many algae; clear, colourless; 25—26; 7,0—7,2.

27 **Casa de Agua del Valle.** 4.7.1936.
½ × 1/10; rather rapidly streaming; probably temporary; overflow of basin;
sandy-clay and plant-decay; some algae, grasses;
clear, colourless; 26—28. (est. at 60 mg Cl/l)

28. **Peila del Acuaducto del Cerrito,** E. of La Asunción. 27.5.1936.
2 × 2 × ½; stagnant, often stirred; probably rarely dry; cemented tank, piped from Stat. 21;
brickwork; few algae;
clear, colourless; 30—34; 6,8—7,0.

Los Testigos

29. **Pozo del Puerto de la Iguana.** 14.6.1936.
1 × 1 × ½; stagnant; probably permanent; dug about 1928, 1½ m; weathered granitic rock; sand and sheet-iron; many algae;
rather clear, somewhat greyish; 27—30; 7,0—7,2?.

30. **Poza del Morro de la Iguana.** 14.6.1936.
10 × 6 × 1½; stagnant; probably sometimes dry; dug and dammed; weathered granitic rock; sand and mud; very few algae, much *Lemna*;
turbid, greyish; 30—35; 7,0—7,2?.

31. **Pozo del Puerto Real** de Tamarindo. 15.6.1936.
10 × 1½ × ½; stagnant; probably sometimes dry; dug;
granitic rock; rock and mud; practically none;
very turbid, greyish; 30—35; 7,0—7,2?.

32. **Poza Inglés** de Tamarindo. 15.6.1936.
4 × 3 × ½; stagnant; probably sometimes dry; dug;
granitic rock; rock and mud, with leaf-decay; few algae, *Hippomane*;
rather clear, colourless; 28—32; 6,8—7,0?.

33 **Puddle on the top of Tamarindo.** 16.6.1936.
1 × ¼ × ½; stagnant; probably sometimes dry; natural;
granitic rock; rock and mud, with leaf-decay; few algae;
rather clear, brownish, polluted by goats; 30—32; 6,4—6,6?.

34 **Puddle on the top of Tamarindo.** 16.6.1936.
¾ × ¼ × 1/10; stagnant; probably often dry; natural;
granitic rock; rock; practically none;
clear, colourless; 30—35; 7,0—7,2?.

Blanquilla

35. **Pozo de Valuchu.** 21.7.1936.
1½ × 1½ × ½; stagnant; permanent; dug;
diorite and sand; debris and muddy-sand; very few algae;
slightly turbid, yellowish-grey; 28—30; 7,5—7,8.

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

36. **Pozo de la Playa del Jaque.** 22.7.1936.
3 × 2 × ½; stagnant; probably permanent; dug;
diorite, limestone and sand; debris and sandy-mud; few algae;
turbid, greenish-brown; 28—32; 7,5—7,8.

37. **Pozo de la Casa,** Cocoteria del Jaque. 22.7.1936.
1 × 1½ × ½; stagnant; probably permanent; dug, 2 m;
diorite-detritus; sandy-mud; practically none;
clear, light-brownish; 28—30; 7,5—7,7.

38. **Poza de Aguada, N** of El Jaque. 22.7.1936.
200 × 60 × ?4; stagnant; permanent; dammed;
weathered diorite; debris and sandy-mud; algae;
rather clear, brownish; 28—35; 7,3—7,5.

Orchila

39. **Pozo Grande** de Huespén. 24.7.1936.
10 × 10 × ½; stagnant; probably permanent; natural;
coral-limestone; rock and mud; very few algae, surface-film;
turbid, brownish-green; 27—34; 7,5—7,8.

40. **Pozo Chiquito** de Huespén. 24.7.1936.
1 × ½ × ½; stagnant; permanent; natural;
coral-limestone; rock and sandy-mud; very few algae;
clear, colourless; 27—30; 7,5—7,7.

Los Roques

41. **Pozo de la Vaca,** Gran Roque. 25.7.1936.
1½ × 1 × ¼; stagnant; permanent; dug, 1½ m;
debris of amphibole-rock; mud and debris; practically none (shady);
turbid, greyish; 28; 7,8—8,0.

42. **Pozo de la Cabecera,** Gran Roque. 26.7.1936.
1 × ½ × ½; stagnant; permanent; natural, deepened;
amphibole-rock; rock and some mud; practically none;
slightly turbid, greyish-brown; 28—30; 7,0—7,5.

43 **Puddle, Cayo de Agua.** 26.7.1936.
¼ × ¼ × 1/10; stagnant; temporary; dug;
coral-sand; sand; few algae;
clear, colourless; 28—32; 7,5—8,0.

Bonaire

44. **Pos Bronswinkel.** 27.3.1937.
8 × 8 × 2; stagnant, overflowing abt. 200 l/hour; permanent; dug, partly cemented;
debris of porphyrite; debris, brickwork, mud and leaf-decay; crowded with algae;
clear, nearly colourless; 28—30; 7,5—8,0.

44a **Pos Bronswinkel.** 31.5.1930.
8 × 8 × 2; stagnant, overflowing; permanent; dug, partly cemented; debris of porphyrite; debris, brickwork, mud and leaf-decay; crowded with algae;
clear, nearly colourless; 28—31. (est. at abt. 600 mg Cl/l)

44A **Bron di Pos Bronswinkel.** 27.3.1937.
$^1/_{10}$ × $^1/_{10}$ × $^1/_{100}$; percolating, small pools; always moistened; natural; porphyrite; rock, detritus and leaf-decay; algae, mosses;
clear, colourless; 27; 7,2—7,5. (est. at 520 mg Cl/l)

s.n. **Pos Hoeba,** N of Goto. 26.5.1930.
10 × 8 × ?1; stagnant; permanent; dug;
diabase and porphyrite-debris; debris, sand and mud; few algae;
rather clear, brownish, polluted by goats; 30—36. (est. at abt. 600 mg Cl/l)

s.n. **Pos Chikitoe,** N of Goto. 26.5.1930.
4 × 3 × 1; stagnant; permanent; dug;
diabase and cherts; mud, debris and rock; few algae;
clear, slightly brownish, polluted by goats; 25—31. (est. at abt. 500 mg Cl/l)

45. **Dos Pos.** 27.3.1937.
4 × 3 × ?5; stagnant, frequently stirred; permanent; dug, upper part cemented;
porphyrite and diabase; rock, mud and brickwork; algae;
clear, colourless; 27—30; 7,5—7,7.

46. **Tanki Onima.** 13.11.1936.
300 × 100 × ?2; stagnant, overflowing; dry for a few months; dammed with cemented wall;
chiefly diabase-detritus; chiefly mud; few algae, some grasses;
turbid, greyish; 28—30; 7,6—8,0.

46a **Tanki Onima.** 23.5.1930.
20 × 10 × ½; stagnant; dry for a few months; dammed with cemented wall;
chiefly diabase-detritus; mud; practically none;
very turbid, greenish; 29—32. (est. at abt. 400 mg Cl/l)

47. **Pos Letin,** Onima. 13.11.1936.
2 × 1½ × 1; stagnant; permanent; probably natural, deepened, 5½ m; coral- limestone; rock with clayish-mud; practically none;
rather clear, colourless; 26—30; 7,5—8,0.

47a **Pos Letin,** Onima. 29.5.1930.
1½ × 1 × ½; stagnant; permanent; probably natural, deepened, 5½ m; coral-limestone; clayish-mud and rock; practically none;
rather clear, nearly colourless; 25—29. (est. at abt. 400 mg Cl/l)

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

48. **Bron Fontein.** 13.11.1936.
$^1/_5 \times {}^1/_{10}$; rather rapidly streaming, abt. 1800 l/hour; permanent; rather natural, cemented gutter;
coral-limestone; clay, sinter, brickwork and leaf-decay; practically none (shady);
clear, colourless; 28?; 8,2—8,4?.

48a. **Bron Fontein.** 30.3.1937.
$^1/_5 \times {}^1/_{10}$; rather rapidly streaming, abt. 2000 l/hour; permanent; rather natural, cemented gutter;
coral-limestone; clay, brickwork, sinter and leaf-decay; practically none (shady);
clear, colourless; 28; 8,2—8,4.

48b **Bron Fontein.** 21.5.1930.
$^1/_5 \times {}^1/_{20}$; rather rapidly streaming, abt. 1200 l/hour; permanent; rather natural, cemented gutter;
coral-limestone; brickwork, mud and leaf-decay; practically none (shady);
clear, colourless; 28. (est. at abt. 400 mg Cl/l)

49. **Pos Boven Bolivia.** 24.3.1937.
$^1/_4 \times {}^1/_5 \times {}^1/_{50}$; stagnant; possibly permanent; probably natural; made accessible, 5 m;
coral-limestone; mud and rock; algae, film;
rather clear; brownish, polluted by goats; 26—31; 8,3—8,6.

49a **Pos Boven Bolivia.** 23.11.1930.
$1 \times 1 \times {}^1/_4$; stagnant; possibly permanent; probably natural, made accessible, 5 m;
coral-limestone; rock and mud; algae;
rather turbid, brownish, strongly polluted by goats; 27—31. (est. at abt. 3000 mg Cl/l)

50. **Tanki di Nene George,** Deenterra. 25.3.1937.
$20 \times 15 \times 2$; stagnant; permanent; dug and dammed;
detritus of diabase, cherts and limestone; mud; algae, *Chara, Echinodorus,* grasses;
rather clear, greenish-grey; 28—31; 8,9—9,1.

51. **Tanki Kerkhof,** Kralendijk. 31.3.1937.
$10 \times 4 \times {}^1/_4$; stagnant; dry for a few months; dammed;
detritus of diabase and cherts; clayish-mud; practically none;
very turbid, brownish-grey; 28—35.

52. **Pos Ichi,** Kralendijk. 14.11.1936.
$3 \times 1 \times {}^1/_2$; stagnant; permanent; natural, made accessible, deepened;
coral-limestone; mud of diabase-detritus and rock; algae, often detached;
turbid, brownish-yellow; 28—34; 7,9—8,1.

52a. **Pos Ichi,** Kralendijk. 31.3.1937.
$1\frac{1}{2} \times \frac{1}{2} \times \frac{1}{4}$; stagnant; permanent; natural, made accessible, deepened; coral-limestone; mud of diabase-detritus; algae;
turbid, yellowish-grey; 28—34; 8,2—8,4.

52b **Pos Ichi,** Kralendijk. 30.9.1930.
$2 \times 1 \times \frac{1}{4}$; stagnant; permanent; natural, made accessible, deepened; coral-limestone; mud of diabase-detritus and rock; few algae;
turbid, brownish-grey; 28—33 (est. at. 1000 mg Cl/l)

53. **Pos Baca,** Kralendijk. 14.11.1936.
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2}$; stagnant; permanent; rather natural, made accessible, upper part cemented;
coral-limestone; rock and black mud; many algae;
clear, slightly greenish; 26—30; 7,5—8,0?.

53a. **Pos Baca,** Kralendijk. 31.3.1937.
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{4}$; stagnant; permanent; rather natural, made accessible; coral-limestone; rock and black mud; many algae;
clear, somewhat greenish; 24—29; 7,7—7,9.

53b **Pos Baca,** Kralendijk. 17.5.1930.
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2}$; stagnant; permanent; rather natural, made accessible; coral-limestone; rock and black mud; many algae;
clear, slightly greenish; 26—30. (est. at abt. 1500 mg Cl/l)

54. **Pos Baca Chikitoe,** Kralendijk. 14.11.1936.
$1\frac{1}{2} \times 1 \times \frac{1}{4}$; stagnant; permanent; rather natural, deepened; coral-limestone with diabase-detritus; clayish-mud and rock; very few algae;
very turbid, yellowish-brown; 26—32. (est. at 500 mg Cl/l)

s.n. **Pos Shiki,** Lima. 3.12.1930.
$15 \times 10 \times \frac{1}{2}$; stagnant; probably permanent; natural; coral-limestone; chalky-mud and rock; very few algae;
slightly turbid, greyish; 28—36. (est. at abt. 8000 mg Cl/l)

55. **Pos Calbas,** Lima. 1.4.1937.
?10 × 7 × ¼; stagnant; permanent; natural;
coral-limestone; rock and black mud; practically none (shady);
clear, colourless; 26; 7,7—7,9.

56. **Grot Watapana.** 1.4.1937.
5 × 3 × 1; stagnant; permanent; natural;
coral-limestone; rock and lime-crystals; none (dark);
clear, colourless; 30; 7,4—7,6.

s.n. **Pos di Pepe,** Lima. 29.8.1930.
$4 \times 2\frac{1}{2} \times 1$; stagnant; permanent; rather natural;
coral-limestone; rock and some mud; many algae;
clear, nearly colourless; 28—32. (est. at abt. 500 mg Cl/l)

s.n. **Pos Jatoe Largoe,** Lima. 29.8.1930.
6 × 5 × 1; stagnant; permanent; natural;
coral-limestone; rock and black mud; few algae;
clear, colourless; 26—32. (360 mg Cl/l)

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

s.n. **Pos Guajaká,** Lima. 29.8.1930.
2 × 2 × 1 (— 7); stagnant; permanent; natural; coral-limestone; rock; algae;
clear, colourless 28—30. (480 mg Cl/l)

57. **Pos Caranja,** Lima. 14.11.1936.
3 × 2 × 1 (— 3); stagnant; permanent; natural; coral-limestone with black mud; very few algae;
clear, colourless; 27—30; 7,4—7,6.

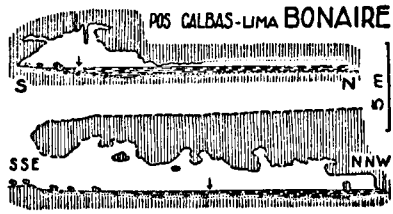

Fig. 1. Pos Calbas, Bonaire, cross- and length-sections; coral-limestone, Stat. 55.

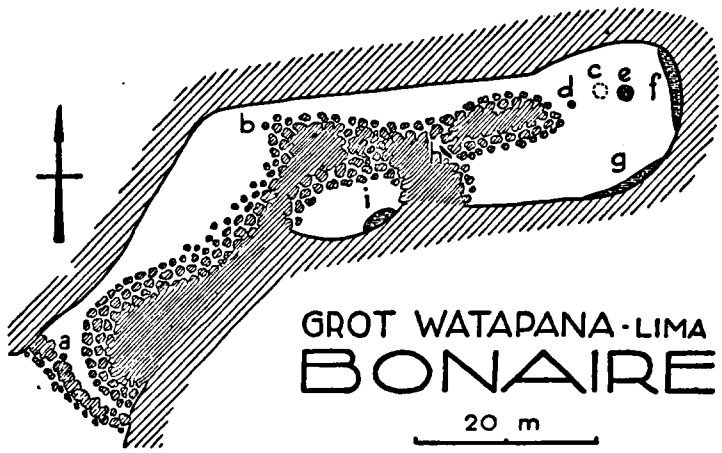

Fig. 2. Cave of Watapana, Bonaire, groundplan, roughly surveyed; coral-limestone, 0-5 m high. d, e, f, g, h, i — exposures of cavern-water; b — Stat. 183, i — Stat. 56, 183A.

57a. **Pos Caranja,** Lima. 31.3.1937.
3 × 2 × 1 (— 3); stagnant; permanent; natural;
coral-limestone with black mud; very few algae;
clear, colourless; 27—31; 7,4—7,6.

57b **Pos Caranja,** Lima. 17.5.1930.
3 × 2 × 1 (— 3); stagnant; permanent; natural;
coral-limestone with black mud; very few algae;
clear, colourless; 27—31. (est. at 2500 mg Cl/l)

58. **Pos Francés,** Punt Vierkant. 31.3.1937.
1 × 1 × $^1/_{10}$; stagnant; permanent; rather natural;
coral-limestone; rock and mud; some algae;
turbid, greyish; 27—32; 8,2—8,4.

58a **Pos Francés,** Punt Vierkant. 3.9.1930.
2 × 1 × ¼; stagnant; permanent; rather natural;
coral-limestone; rock and mud; some algae;
slightly turbid, greyish; 28—32. (est. at 600 mg Cl/l)

s.n. **Pos Gabriel,** Punt Vierkant. 3.9.1930.
2 × ½ × ¼; stagnant; permanent; rather natural;
coral-limestone; rock and mud; some algae;
sligthly turbid, greyish; 28—34. (est. at 600 mg Cl/l)

59. **Pos Oranjepan,** Zuidpunt. 26.3.1937.
½ × $^1/_3$ × $^1/_{20}$; stagnant; rarely dry; rather natural;
coral-limestone; rock and chalky-mud; few algae;
clear, colourless; 27—30; 7,7—7,9.

s.n. **Pos Oranjepan,** Zuidpunt. 3.12.1930.
1½ × 1 × ¼; stagnant; sometimes dry; rather natural;
coral-limestone; rock and chalky-mud; few algae;
clear, colourless; 27—32. (est. at abt. 900 mg Cl/l)

60. **Pos Lansberg Z,** Zuidpunt. 26.3.1937.
¾ × ¾ × $^1/_5$; stagnant; permanent; rather natural;
coral-limestone; rock and mud; many algae;
rather clear, colourless, polluted with goat; 29—33; 8,7—8,9.

60a **Pos Lansberg** (Lansberg Putten), Zuidpunt. 8.6.1930.
1½ × 1 × ¼; stagnant; permanent; rather natural;
coral-limestone; rock and mud; many algae;
clear, colourless; 29—35. (est at abt. 400 mg Cl/l)

Klein Bonaire

61. **Pos di Cas.** 15.11.1936.
4 × 2 × ½; stagnant; permanent; natural;
coral-limestone; rock with black mud; many algae;
clear, nearly colourless; 26—29. (est. at abt. 400 mg Cl/l)

61a. **Pos di Cas.** 23.3.1937.
4 × 2 × 1; stagnant; permanent; natural;
coral-limestone; rock with black mud; some algae;
clear, nearly colourless; 26—29; 8,2—8,4.

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

s.n. **Pos Blauwduif.** 17.10.1930.
3 × 1 × ½; stagnant; permanent; natural;
coral-limestone; rock and black mud; very few algae (shady);
clear, colourless; 27—30. (est. at abt. 4000 mg Cl/l)

62 **Sheet of water.** 15.11.1936.
1 × 1 × $^1/_{30}$; stagnant; temporary; natural, rainwater;
coral-limestone; rock; few algae;
clear, colourless; 27—34. (est. at abt. 60 mg Cl/l)

63. **Tanki Calbas.** 15.11.1936.
20 × 20 × 1½; stagnant; probably permanent; natural;
coral-limestone; rock and some mud; some algae, some *Chara*;
clear, nearly colourless; 28—32; 8,4—8,6.

63a. **Tanki Calbas.** 23.3.1937.
6 × 3½ × ½; stagnant; probably permanent; natural;
coral-limestone; rock and mud; some algae;
slightly turbid, brownish; 28—33; 8,6—8,8.

63b **Tanki** (Pos) **Calbas.** 9.6.1930.
6 × 4 × ½; stagnant; probably permanent; natural;
coral-limestone; rock and mud; algae, crowded with *Chara* and *Ruppia*;
rather clear, nearly colourless; 28—32. (est. at abt. 700 mg Cl/l)

s.n. **Pos Guajaká.** 17.10.1930.
1 × ½ × 1; stagnant; permanent; natural;
coral-limestone; rock and black mud; algae;
clear, colourless; 27—29. (est. at abt. 600 mg Cl/l)

Klein Curaçao

64. **Pos, N of lighthouse.** 29.8.1936.
1 × 1 × ½; stagnant; permanent; probably artificial;
coral-limestone; rock and mud; some algae;
rather clear, somewhat brownish-green; 28—33; 7,9—8,2.

64A. **Pos, N of lighthouse.** 29.8.1936.
3 × 2 × ½; stagnant; probably rarely dry; probably artificial;
coral-limestone; rock and mud; algae;
rather turbid, brownish-green; 28—34.

Curaçao

65. **Pos di Hofje Ariba, Fuik.** 9.9.1936.
2 × 2 × 2; stagnant; permanent; dug, 8 m, upper part cemented;
diabase-detritus and rock; rock and mud; few algae;
clear, colourless; 28—30; 8,4—8,6.

65A. **Bak di Hofje Ariba, Fuik.** 9.9.1936.
4 × 1 × ¼; stagnant; temporary; cemented, pumped from Stat. 65; brickwork; many algae;
clear, colourless; 28—36; 8,6—8,8.

66. **Tanki di Cas Klein St. Joris.** 6.9.1936.
12 × 10 × 1½; stagnant; probably permanent; dug;
diabase-detritus; mud and plant-decay; rather few algae;
rather clear, somewhat yellowish-brown; 29—34; 8,5—9,0.

67. **Bak di Hofje Groot St. Joris.** 20.10.1936.
15 × 5 × 1; stagnant; temporary; cemented, ground-water, with overflow;
diabase and detritus; brickwork with leaf-decay; few algae;
clear, colourless; 29—32; 7,5—8,0.

68 **Puddle,** Piscadera. 10.10.1936.
¼ × ¼ × $^1/_{10}$; stagnant; temporary; natural, rainwater;
coral-limestone; rock with plant-decay; practically none;
clear, colourless; 29—36; 8,2—8,4.

69 **Puddle,** Piscadera. 10.10.1936.
1 × ¼ × $^1/_{20}$; stagnant; temporary; natural, rainwater;
coral-limestone; rock with plant-decay; practically none;
clear, colourless; 29—36; 8,1—8,4.

70. **Tanki Koenoekoe Hatoen,** Hato. 15.10.1936.
10 × 5 × 1; stagnant; probably rarely dry; dug;
weathered soil with coral-limestone; clayish-mud; algae, much *Chara*, few *Najas*, grasses;
turbid, yellowish-brown; 28—34; 8,4—8,6.

71. **Boca Spelonk di Bak Ariba,** Hato. 13.10.1936.
1 × ¼; rather rapidly streaming; permanent; rather natural, made accessible, built in;
coral-limestone and some shale; rock, brickwork and clayish-mud; none (dark);
clear, colourless; 30; 7,3—7,6.

71A. **Bak Ariba,** Hato. 13.10.1936.
¼ × $^1/_{10}$; often rapidly streaming; temporary; cemented overflow of basin, piped from Stat. 71;
brickwork and leaf-decay; algae;
clear, colourless; 30—32. (est. at 310 mg Cl/l)

72. **Boca di Leeuw,** Hato. 13.10.1936.
(2 ×) 1½ × ¼; rather slowly streaming; permanent; natural, made accessible, built in;
coral-limestone and some shale; rock, clayish-mud and brickwork; none (dark);
clear, colourless; 30; 7,5—7,7.

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

72A. **Bak di Boca di Leeuw,** Hato. 13.10.1936.
2 × 2 × 1; renewing, about 1800 l/hour; probably temporary; cemented tank with overflow, piped from Stat. 72;
brickwork and leaf-decay; algae, somewhat sinterish;
clear, colourless; 29—31; 7,6—8,0. (est. at 210 mg Cl/l)

73. **Kamber di Awa, Grot van Hato.** 16.9.1936.
1½ × ?1 × $^1/_{20}$; stagnant; permanent; natural;
coral-limestone; dripstone, some black mud and burned wood; none (dark);
clear, colourless; 27?; 8,4—8,6.

73a. **Kamber di Awa, Grot van Hato.** 5.10.1936.
1½ × ?1 × $^1/_{25}$; stagnant; permanent; natural;
coral-limestone; dripstone, some black mud and burned wood; none (dark);
clear, colourless; 27?; 8,4—8,6.

74. **Bron Cajoeda,** Hato. 1.10.1936.
½ × $^1/_{10}$; rather rapidly streaming, about 500 l/hour; permanent; rather artificial, piped;
coral-limestone with some shale and sandstone; brickwork and gravel; few algae;
clear, colourless; 29; 8,2—8,4.

75. **Tanki Mamaja,** Hato. 6.10.1936.
40 × 20 × 2; stagnant; permanent; natural;
coral-limestone and shale-detritus; mud and some rock; many algae *Najas,* some *Chara, Echinodorus* and grasses;
clear, nearly colourless; 27—31; 8,6—8,8.

75a. **Tanki Mamaja,** Hato. 11.10.1936.
50 × 25 × 2; stagnant; permanent; natural;
coral-limestone and shale-detritus; mud; many algae, *Najas,* some *Chara, Echinodorus* and grasses;
clear, nearly colourless; 27—30; 8,4—8,6?.

76. **Bron Wandongo,** Hato. 6.10.1936.
(4 ×) 2 × ¼; slowly streaming, about 600 l/hour; permanent; natural;
coral-limestone and some shale; rock and sand; practically none;
clear, colourless; 28; 7,1—7,3.

76A **Bron Wandongo,** Hato. 6.10.1936.
(1 ×) 1 × ¼; streaming, about 500 l/hour, turbulent, pool; permanent; rather natural, piped;
coral-limestone, debris and detritus; gravel and sand; very few algae, single *Chara* and *Najas;*
clear, colourless; 28; 7,1—7,3. (230 mg Cl/l)

76Aa **Bron Wandongo,** Hato. 11.10.1936.
(1 ×) 1 × ¼; streaming, about 800 l/hour, turbulent, pool; permanent; coral-limestone, debris and detritus; gravel and sand; very few algae, single *Chara* and *Najas*;
clear, colourless; 28?; 7,2—7,4.

76B. **Bron Wandongo,** Hato. 11.10.1936.
30 × 10 × $^1/_{20}$; almost stagnant; permanent; natural;
detritus of limestone, shale and sandstone; mud; algae, crowded with *Chara*, much *Stemodia*;
somewhat turbid, greyish; 27—33. (est. at 240 mg Cl/l)

77. **Bak Rincón,** Hato. 11.10.1936.
5 × 3 × 2; stagnant, overflowing, about 500 l/hour; permanent; cemented cistern;
coral-limestone and shale with sandstone; brickwork, leaf-decay; practically none (shady), *Hippomane*;
clear, colourless; 29.

77A **Bak Rincón,** Hato. 11.10.1936.
1 × $^1/_{20}$; slowly streaming, about 500 l/hour, pools; probably permanent; rather natural, overflow from Stat. 77;
detritus of limestone, shale and sandstone; sand and mud; algae, *Chara, Najas* and *Lemna, Stemodia*;
clear, nearly colourless; 28—30. (150 mg Cl/l)

78. **Tanki Monpos,** Hato. 11.10.1936.
20 × 15 × 1½; stagnant; permanent; probably rather natural, deepened; coral-limestone with shale and sandstone; mud, debris and leaf-decay; algae, *Echinodorus, Stemodia* and *Hippomane*;
slightly turbid, yellowish brownish-green; 29—32; 8,1—8,3.

79. **Bron San Pedro, S.** 22.10.1936.
1 × $^1/_{10}$; rapidly streaming, about 300 l/hour; permanent; rather natural, cemented gutter;
chiefly coral-limestone; brickwork, rock, sandy-mud; few algae, *Bontia*;
clear, colourless; 30; 7,6—8,2?.

80 **Bron San Pedro, N.** 22.10.1936.
1 × 1 × ¼; slowly streaming, about 200 l/hour, overflowing pool; permanent; natural;
chiefly coral-limestone; rock, gravel and some leaf-decay; practically none;
clear, colourless; 30?; 7,6—8,2?.

80A **Bron San Pedro, N.** 22.10.1936.
(¼ ×) ¼ × $^1/_{10}$; percolating, renewing pools; probably permanent; natural;
chiefly coral-limestone; leaf-decay and rock; algae, mosses, *Coccoloba*;
clear, colourless; 29—31. (est. at 460 mg Cl/l)

81. **Pos di Wanga,** Midden Curaçao. 9.11.1936.
12 × 6 × ?2; stagnant; permanent; dug, 3 m;
coral-limestone and shale; debris and mud; few algae, some *Najas*:
rather clear, somewhat brownish-green; 29—32; 8,5—9,0.

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

82. **Pos Europa, Dokterstuin.** 27.10.1936.
10 × 8 × ?3; stagnant; permanent; dug, wall of brickwork; diabase; bricks, mud and leaf-decay; many algae; clear, somewhat coloured; 28—32; 8,6—9,2?.

83. **Pos Ariba, Dokterstuin.** 27.10.1936.
15 × 12 × ?3; stagnant; permanent; dug, wall of brickwork; diabase; mud, bricks and leaf-decay; many algae, *Hippomane*; clear, dark-brownish-green; 28—33; 9,0—9,8?.

83a **Pos Ariba, Dokterstuin.** 29.10.1936.
the same.

84. **Pos di Hofje Chikitoe, St. Kruis.** 24.10.1936.
2 × 2 × 2; stagnant; permanent; dug, 5 m, upper part brickwork; diabase-detritus; rock and mud; some algae; clear, slightly brownish; 28—31; 8,2—8,8?.

85. **Tanki St. Kruis.** 24.10.1936.
15 × 15 × 1½; stagnant; dry for a few months; dug; diabase-detritus; mud and sand; algae, surface-film; turbid, dark-brownish-green; polluted by cattle; 28—34; 8,6—9,2?.

86. **Pos Sorsaka, S.E.** 10.11.1936.
(4 ×) 3 × ½; slowly streaming, abt. 100 l/hour, pool; probably permanent; natural, deepened; diabase rock and sand; algae, often floating; turbid, brownish-yellow, slightly polluted by cattle; 28?; 8,0—9,0?.

87 **Bron di Rooi Sánchez,** Knip. 11.11.1936.
(¼ ×) ¼ × $^1/_{10}$; percolating, abt. 10 l/hour, pools; permanent; natural; siliciferous cherts; rock and plant-decay with some sinter; algae; clear, colourless; 28?; 8,0—8,6?.

88. **Bron di Rooi Beroe,** Savonet. 10.11.1936.
(2 ×) 2 × ½; slowly streaming, abt. 50 l/hour, pool; permanent; natural; siliciferous cherts; rock with thin sinter deposits and mud; algae, often floating; slightly turbid, greenish-brown, polluted by goats; 28?; 8,0—8,6?.

89. **Tanki di Hofje Savonet.** 29.10.1936.
12 × 10 × 1½; stagnant; probably rarely dry; dug, old brick-wall; chiefly diabase-detritus; mud and brickwork; crowded with algae and *Chara*; rather clear, somewhat greenish, slightly polluted; 28—34.

90 **Puddle,** Westpunt. 27.10.1936.
$^1/_5$ × $^1/_5$ × $^1/_{20}$; stagnant; temporary; natural, rainwater; coral-limestone; rock; few algae; clear, colourless; 27—36; 8,0—8,5?.

Aruba

91 **Puddle** in small cavern, Quadirikiri. 9.2.1937.
$^1/_5 \times {}^1/_{10} \times {}^1/_{50}$; stagnant; temporary; natural, probably rainwater; coral-limestone; rock and mud; algae;
clear, colourless; 27—32.

92 **Pos di Fontein.** 23.12.1936.
1 × 1 × 2; stagnant, renewing; permanent; natural, made accessible; coral-limestone; rock and some sandy-mud; very few algae;
clear, colourless; 30?; 7,7—7,9.

93. **Bron di Fontein.** 23.12.1936.
15 × 10 × 1; stagnant, overflowing pond, probably water from St. 92; permanent; natural, enlarged, with brick-wall;
chiefly coral-limestone; rock, mud, brickwork and leaf-decay; many algae;
clear, colourless; 29; 7,7—7,9.

93a **Bron di Fontein.** 2.7.1930.
15 × 10 × 1; stagnant, overflowing pond; permanent; natural, enlarged, with brick-wall;
chiefly coral-limestone; rock, mud, brickwork and leaf-decay; many algae;
clear, colourless; 29. (210 mg Cl/l)

94. **Pos Grandi, Rooi Lamoenchi.** 12.2.1937.
1½ × 1 × ½; stagnant; permanent; rather natural, made accessible, upper part cemented;
coral-limestone; rock and some mud; few algae;
clear, colourless; 28—31; 7,7—7,9.

95. **Pos W of Rooi Lamoenchi.** 11.2.1937.
1½ × 1 × ½; stagnant; permanent; dug, 4 m, upper part cemented; coral-limestone; rock with some mud; few algae;
clear, colourless; 28—30; 7,8—8,0.

96. **Tanki Chikitoe, W of Rooi Lamoenchi.** 12.2.1937.
15 × 10 × ¼; stagnant; probably dry for a few months; rather natural; coral-limestone; rock and clayish-mud; few algae, often floating;
very turbid, yellowish-brown; 27—35; 9,0—9,4.

97. **Tanki Mon Plaisir,** Oranjestad. 15.12.1936.
30 × 20 × 1; stagnant; dry for several months; dug and dammed; diorite-detritus; sand, mud and leaf-decay; algae, *Prosopis;*
slightly turbid, somewhat greyish-brown; 27—32; 8,8—9,3.

98. **Tanki di Hofje Westpunt.** 9.12.1936.
40 × 10 × ½; stagnant; dry for several months: rather natural; detritus of schists, diorite and limestone; mud, debris and leaf-decay; algae, *Coccoloba;*
very turbid,, brownish; 28—34; 8,0—8,5.

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

99. **Tanki di Goudmijn Tibusji.** 9.12.1936.
15 × 5 × ¼; stagnant; dry for several months; dug about 1910; debris and detritus of schists and diorite; mud and debris; very few algae, few *Chara*;
very turbid, brownish; 27—33; 8,5—9,0.

100. **Tanki Leendert.** 16.12.1936.
100 × 25 × ?2½; stagnant; permanent; dug and dammed; diorite and diorite-detritus; rock and mud; few algae, grasses;
turbid, yellowish-brown; 26—30; 8,0—9,0?.

101. **Tanki di Rooi Canashito.** 7.12.1936.
(25 ×) 4 × 1; practically stagnant; probably permanent; rather natural; diorite-detritus and coral-limestone; sand and mud; algae;
turbid, greenish-brownish-grey; 27—32; 8,3—8,6.

102. **Bron di Pos di Noord.** 30.12.1936.
(1½ ×) 1 × ¼; slowly streaming, abt. 800 l/hour, pool; permanent; natural;
diorite; sand and debris; nearly no algae;
clear, colourless; 29?; 7,5—8,5.

102A. **Pos di Noord.** 30.12.1936.
(1 ×) ½ × ¼; slowly streaming, pools; permanent; natural, water from Stat. 102;
diorite-debris; sand and mud; rather many algae, grasses;
rather clear, nearly colourless; 27—30; 8,6—8,8.

102Aa **Pos di Noord.** 28.6.1930.
(1½ ×) ½ × ¼; slowly streaming, pool; permanent; natural;
diorite-debris; sand and mud; many algae, grasses;
rather clear, nearly colourless; 27—30. (est. at abt. 3500 mg Cl/l)

103. **Bron di Rooi Bringamosa.** 6.1.1937.
(1 ×) 1 × ¼; rather rapidly streaming, abt. 1500 l/hour, pools; permanent; natural;
diorite; debris and sand, algae;
clear, colourless; 27—29; 8,7—8,9.

104 **Bron di Rooi Prins.** 9.1.1937.
(½ ×) $^1/_5$ × $^1/_{100}$; slowly streaming; permanent; natural;
schists and diabase; debris; nearly none, under debris;
clear, colourless; 29?; 7,5—7,7.

104A **Bron di Rooi Prins.** 9.1.1937.
$^1/_5$ × $^1/_{20}$; rapidly streaming; probably not permanent; natural, water from St. 104;
schists and diabase; rock; algae;
clear, colourless; 29?; 7,7—7,9. (1300 mg Cl/l)

104B. **Bron di Rooi Prins.** 9.1.1937.
(6 ×) 3½ × 1; almost stagnant, renewing pool; probably permanent; natural, water from St. 104;
schists and diabase; sand and mud; many algae, *Anthirroea, Bontia*;
clear, colourless; 28—30; 8,0—8,4. (est. at 1300 mg Cl/l)

104Ba **Bron di Rooi Prins.** 4.7.1930.
(3 ×) 2 × ½; almost stagnant, pool; probably permanent; natural; schists and diabase; mud, sand and leaf-decay; many algae, *Anthirroea, Bontia*;
clear, nearly colourless; 28—30. (est. at abt. 1000 mg Cl/l)

NW Venezuelan Continent (Paraguaná)

105. **Poza de la Compañía, Carirubana.** 15.2.1937.
20 × 10 × 1½; stagnant; probably permanent; dug and dammed in 1925;
marl; marl, mud and crude oil with leaf-decay; many algae with *Najas, Cercidium*;
clear, nearly colourless, polluted with crude oil; 28—35; 9,0—9,4.

106. **Poza de San Antonio,** E of Carirubana. 16.2.1937.
15 × 15 × 1½; stagnant; probably rarely dry; dug and dammed;
marl and limestone; clayish-mud and some leaf-decay; few algae;
turbid, yellowish-brown, sligthly polluted by cattle; 28—34; 7,9—8,3.

107. **Poza Supideo,** E of Carirubana. 16.2.1937.
30 × 25 × ?2; stagnant; probably permanent; dug and dammed;
limestone and marl-detritus; clayish-mud; few algae with *Najas*;
turbid, greyish-brown; 28—33; 7,9—8,3.

108. **Estanque de Moruy.** 18.2.1937.
100 × 30 × ?3; stagnant; permanent; probably rather natural, dammed;
limestone and hornblende-rock; rock, sand and clayish-mud; algae with some *Chara* and *Najas*;
sligthly turbid, nearly colourless; 28—31; 8,7—8,9.

109. **Estanque de Santa Fé,** NE of Moruy. 18.2.1937.
30 × 30 × ?1½; stagnant; permanent; probably dug and dammed:
limestone and marl; clayish-mud; algae with much *Chara, Najas, Ruppia* and some *Echinodorus*;
somewhat turbid, greyish-brown; 28—32; 8,8—9,4.

110. **Estanque de Santa Ana.** 16.2.1937.
100 × 30 × ?3; stagnant; permanent; probably natural, dammed;
debris of hornblende-rock; sand and mud; some algae with *Najas*;
rather clear, sligthly greyish-brown; 28—31; 8,2—8,4.

NE Colombian Continent (La Goajira)

111 **Pozo de Macaralpao,** NW of Castilletes. 14.1.1937.
1½ × 1 × $^1/_{20}$; stagnant; probably rarely dry; dug;
detritus; clayish-mud; algae;
turbid, yellowish-brown-grey; 28—36.

Station-number. Locality. Date.
Dimension of waterbody in m; movement; permanency; origin; soil in neighbourhood; bottom; vegetation; turbidity, colour; temperature in °C; pH.

112. **Pozo del Cabo de la Vela.** 22.1.1937.
1 × 1 × 1; stagnant; probably permanent; probably rather natural, made accessible, 1½ m;
chiefly coral-limestone; rock and clayish-mud; some algae;
turbid, greyish; 28—31.

113. **Pozo del Arroyo de Aparà,** E of El Cardón. 27.1.1937.
6 × 1½ × 1; stagnant; probably permanent, pool in dry riverbed; natural;
detritus of igneous-rock and schists; clayish-mud and sand; very few algae;
very turbid, yellowish-brown; 28—31.

114. **Laguna del Pájaro,** S of El Pájaro. 21.1.1937.
300 × 200 × ?1½; stagnant; permanent; natural:
detritus; sand and clayish-mud; few algae with *Chara* and *Najas,* grasses;
clear, colourless; 26—32.

115. **Río Calancala** (Río Ranchería), San Antonio. 17.1.1937.
30 × 1; very slowly streaming; permanent; natural;
detritus; clayish-mud and sand; few algae;
rather turbid, greyish; 28—30.

Trinidad

116. **River near Four Roads,** NW Trinidad. 7.5.1936.
3 × ½; very slowly streaming; permanent; natural;
detritus; sandy-mud and plant-decay; algae with *Nymphaceae,* grasses;
slightly turbid, greenish; 27—30. (30 mg Cl/l)

117. **Pond between Four Roads and Tetron Bay.** 7.5.1936.
2 × 1 × ¼; stagnant; permanent, in river-bed; natural;
detritus; mud; few algae;
rather clear, greenish: 27—33. (40 mg Cl/l)

Suriname

118. **Well in the Citruskweekerij,** Cultuurtuin, Paramaribo. 2.5.1936.
1½ × 1½ × 3; stagnant; permanent; dug, upper part cemented;
detritus with shells; mud and brickwork; many algae;
clear, greenish; 28—32. (40 mg Cl/l)

119. **Trench behind the Cultuurtuin,** Paramaribo. 2.5.1936.
10 × 1 × ¼; stagnant; probably permanent; dug;
detritus with shells; clayish-mud with shells; crowded with algae and *Chara;*
rather clear, greenish; 28—34. (30 mg Cl/l)

120. **Pond of Belwaarde,** near Paramaribo. 3.5.1936.
15 × 5 × 1; stagnant; permanent, near river; probably dug;
detritus; mud; many algae with *Nymphaceae* and reed-grasses;
rather clear, brownish-green; 28—32. (20 mg Cl/l)

TABLE 1. **Water Analyses**

"Rijksbureau voor Drinkwatervoorziening", Utrecht, through the kind offices of Dr. L. H. Louwe Kooymans.
(from samples of 800 cc)

Station	Conduct. $K_{18} \times 10^6$	$KMnO_4$-consumpt. mg/l	Cl' mg/l	NO_3' mg/l	SO_4'', mg/l	HCO_3' mg/l	NH_4^+ mg/l	SiO_2 mg/l	CaO mg/l	MgO mg/l	Hardness in Germ. degr.	
											Total	Temp.
Margarita												
14 Aljibe S. Antonio .	5360	4,3	1847	tr.	85,7	480	0,5	—	—	—	133	21,9
15 Manantial El Güiri	708	5,1	78	0	9,3	450	0,5	—	—	—	24,0	20,4
16 Manantial S. Juan	11810	5,8	4400	tr.	1274	—	1,0	24,0	1008	1247	275	15,6
17 Toma Encañado .	1520	10,4	260	0	68,8	680	0,5	—	—	—	42,3	31,2
19 Toma Tacarigua .	310	11,9	70	0	13,4	90	0,5	—	—	—	3,9	3,9
21 Toma La Asunción	260	10,6	50	0	8,4	110	0,5	—	—	—	5,1	4,9
26 Toma El Valle .	240	16,5	60	tr.	5,8	120	0,5	13,6	11,2	33,4	5,8	5,3
Bonaire												
44 Pos Bronswinkel .	1840	676	520	0	56,2	350	20	—	—	—	15,9	12,6
46 Tanki Onima . .	260	22,3	35	9,0	9,7	140	0,5	—	—	—	4,9	4,9 *)
48 Fontein	1360	7,2	340	4,8	49,4	340	0,5	—	—	—	22,0	15,7
56 Grot Watapana .	4350	3,2	1480	tr.	101	260	0,5	27,5	130	136	32,1	11,8
57 Pos Caranja . . .	7390	6,8	2620	2,5	373	340	0,5	—	—	—	64,3	15,8
Curaçao												
71 Boca Ariba . . .	1280	7,9	300	12	72,1	310	0,5	—	—	—	20,4	14,0
72 Boca Leeuw . . .	900	4,1	200	11	37,7	240	0,5	—	—	—	15,5	11,2
74 Bron Cajoeda . .	1110	5,6	310	5,8	47,0	170	0,5	—	—	—	15,8	7,8
75a Tanki Mamaja .	1270	44,1	370	0	9,3	225	1,0	16,0	69,2	35,0	11,8	10,3
76Aa Bron Wandongo	1090	4,5	240	tr.	45,7	300	0,5	—	—	—	18,2	13.8
77 Bak Rincón . . .	760	5,3	150	2,0	29,3	260	0,5	—	—	—	14,7	11,8
79 Bron S. Pedro . .	1350	5,4	350	10	61,8	280	0,5	—	—	—	20,8	12,6
81 Pos Wanga . . .	880	15,6	260	tr.	27,2	110	0,5	—	—	—	11,6	5,2
83a Pos Ariba . . .	2560	18,2	620	1,5	132	560	0,5	29	107	195	38,0	25,8
86 Pos Sorsaka . . .	2250	155	600	tr.	9,5	630	8,7	—	—	—	47,8	29,2
87 Bron Sánchez . .	6480	33,3	2160	tr.	67,4	250	0,5	19,0	420	281	81,6	11,2
Aruba												
92 Pos Fontein . . .	1460	3,5	—	12	72,1	230	0,5	—	—	—	18,1	10,4
102 Pos Noord . . .	9220	3,0	3220	11	300	520	0,5	72	173	275	55,8	23,9
103 Bron Bringamosa .	8870	9,7	3140	tr.	244	400	0,5	—	—	—	48,2	18,2
104 Bron Prins . . .	4540	3,6	1300	tr.	110	430	0,5	25,0	143	131	32,7	19,8

*) $NaHCO_3$ = 41 mg/l

LAND HABITATS

A full-stop after the station-number indicates that the material might give some idea of the habitat's fauna at the moment it was examined. Netherlands Government maps were used for the altitudes in Curaçao, Aruba and Bonaire; other values were estimated and therefore must be considered as inexact, especially in the case of more inland localities. The pH has been determined in the field by the colorimetric " Soil reaction Test" of Spurway (The Soiltex Company, Lansing, Michigan); pH values followed by a query-mark are determined by other, less reliable colorimetric methods. Material which has been sampled with Reitter's beetle-sieve (Albert Winkler, Wien) is indicated by an exclamation-mark.

Station-number. Locality. Date.
Height in m; soil; vegetation; special habitat (pH).

NE Venezuelan Continent

121. **Cabo Blanco,** W of La Guaira, 19.8.1936.
20; quartz-sand and debris; scattered small shrubs; under debris with nearly no plant-decay.

122 **Río Guanta,** N of Barcelona. 15.8.1936.
2—4; limestone; scattered shrubs with *Agave*; under stones with weathered soil and some plant-decay.

123. Southern shore of the Península de **Esmerarda,** W of Carúpano. 10.6.1936.
2—5; schists; shrubs with *Agave* and *Opuntia*; under stones and between plant-decay! (6½—7), chiefly *A. Cocui* and *O. Wentiana,* on sand.

124. Southern shore of the Morro de **Esmerarda,** W of Carúpano. 10.6.1936.
1—5; sandy debris of schists; shrubs with *Agave* and *Opuntia;* between sandy plant-decay! (7—7½), in dead *O. elatior*!, under stones.

125 Southwestern slope of the Península de **Puerto Santo,** E of Carúpano, 12.6.1936.
20; chiefly schists; considerable growth of *Agave* with low shrubs; in dead trunk of *A. Cocui*!, under dead *A.* in weathered soil (7—7½), under manure.

125A Southwestern slope of the Península de **Puerto Santo,** 12.6.1936.
80; chiefly schists; scattered shrubs with *Agave* and grasses; under pieces of soft limestone with nearly no plant-decay.

126 Northeastern slope of the Morro de **Puerto Santo,** E of Carúpano, 12.6.1936.
60; weathered schists; mainly grasses; under stones on weathered soil.

127. Top of the Morro de **Chacopata,** Península de Araya. 27.6.1936.
45; schists; some small, scattered shrubs; under stones with some plant-decay! (6—6½?), chiefly cacti and *Croton flavens.*

128. Top of the **Isla de Caribes.** 26.6.1936.
25; schists; few low shrubs, mainly *Croton* and cacti; under stones with very little plant-decay, under *Agave Cocui.*

Coche

129. West of **El Guamache.** 25.6.1936.
20; sandy gravel and debris with much quartz; few scattered low shrubs, chiefly *Croton* with some cacti; between debris with little leaf-decay! (5½—6?), chiefly *C. flavens.*

Cubagua

130 **North-west Cubagua.** 21.5.1936.
15; marly-limestone; very few scattered shrubs; under debris with practically no plant-decay.

Margarita

131. **Morro del Robledar,** Macanao. 20.5.1936.
30; chlorite-schists; scattered shrubs; between sandy debris with leaf-decay! (5—5½).

132 **Punta Ausente,** Pedro González. 14.5.1936.
20; marly-limestone; some scattered, small shrubs, between little leaf-decay! with weathered soil (7½—8).

133 East of **Alta Gracia,** N of Santa Ana. 14.5.1936.
120; sandy gravel and debris with much quartz; very few scattered, low shrubs and herbs; under debris with little leaf-decay! (5—5½).

134. Eastern slope of the Loma Guerra, above the Mina de Magnesite, **Paraguachí.** 13.5.1936.
120; serpentine-schists; scattered grasses with some small shrubs; between some leaf-decay! in fissures (7—7½).

135. **Paraguachí,** S of La Plaza. 13.5.1936.
60; gneiss; shrubs, mainly *Cordia* with *Cactaceae, Mimosaceae* and *Bromeliaceae*; between leaf-decay! in fissures.

136. Southwestern slope of the **Cerro Guayamuri.** 11.5.1936.
180; chiefly gneiss; considerable growth of shrubs with cacti; between sandy leaf-decay!.

137. Southern slope of the **Cerros de Matasiete.** 27.5.1936.
150; granitic rock; scattered shrubs and small trees; between desintegrated rock with some leaf-decay! (5½—6) of *Caesalpinia Coriaria.*

138. Northeastern slope of hill of **El Cerrito,** W of La Asunción. 27.5.1936.
120; marble-schists; scattered shrubs; between desintegrated rock with little leaf-decay! (7—7½).

139. Western escarpment of the **Cerro de Marmoleta,** Cerros de Guayacuco, N of Guatamare. 13.5.1936.
150; chiefly marble; dense growth of shrubs and small trees with many *Cactaceae* and *Bromeliaceae*; under debris, between leaf-decay! in fissures.

140. Valley at the northeastern foot of de **Cerro del Piache,** SE of El Valle. 10.7.1936.
100; marble-schists; considerable growth of shrubs and small trees with many *Cactaceae, Bromeliaceae, Commelinaceae* and *Agave*; under coarse debris, between plant-decay!.

Station-number. Locality. Date.
Height in m; soil; vegetation; special habitat (pH).

141. Entrance of the **Cueva Honda del Piache,** SE of El Valle. 10.7.1936.
300; marble-schists; practically none (shady); in weathered, pulverous soil with some bat-manure.

141A Before the **Cueva Honda del Piache.** 10.7.1936.
300; limestone; scattered shrubs.

142. Southeast-corner of the **Cueva Honda del Piache.** 10.7.1936.
300; marble-schists; none (dark); in pulverous substance with much bat-manure!, on the wall.

143. Below the **Toma de Agua del Valle.** 4.7.1936.
250; antigorite; wooded with large trees, mainly *Clusia,* little undergrowth; in moistened layer of decaying leaves! of *C. rosea* (7).

144. **Toma de Agua del Valle.** 4.7.1936.
250; antigorite; dense growth of shrubs and small trees; in layer of decaying leaves! with some debris.

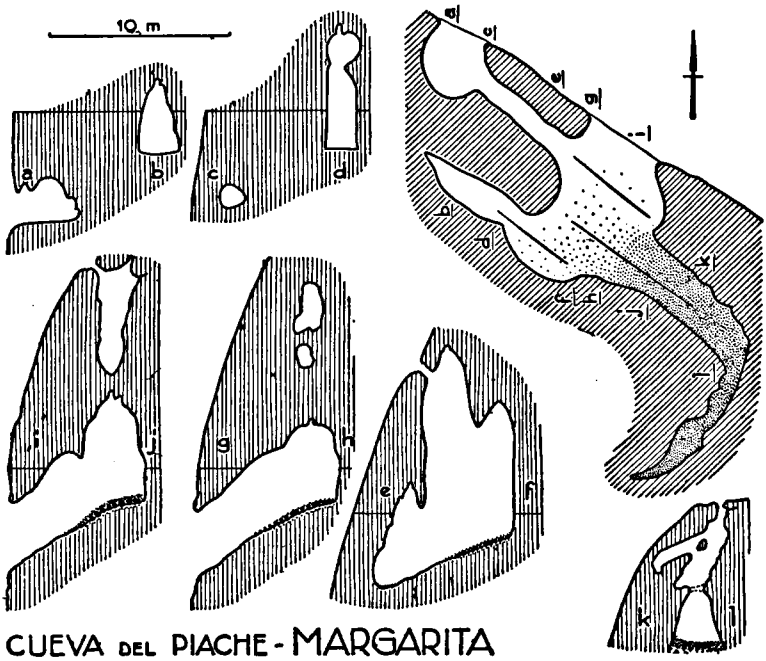

Fig. 3. Cave of El Piache, Margarita, roughly surveyed; marble-schists, abt. 300 m high. In the groundplan the stippling indicates an accumulation of bat-manure; the straight lines indicate the strike of the principle rock-fissures. Stat. 141 is situated near the entrance, St. 142 in the most southern part of the cave.

145. Northern slope of hill SW of **La Asuncion.** 3.7.1936.
300; chiefly serpentine; dense growth of shrubs, mainly *Mimosaceae* and *Euphorbiaceae*; in thin layer of decaying leaves! (6½—7?) on debris.

146. Northern slope of hill W of **La Asuncion.** 3.7.1936.
250; chiefly serpentine; dense growth of shrubs, mainly *Mimosaceae* and *Euphorbiaceae*; in thin layer of decaying leaves! (6½—7?) on debris.

147. Small fruitplantation W of **La Asuncion.** 3.7.1936.
200; chiefly serpentine-debris; several coconuts, mangos and bananas; between plant-decay! (6½—7?).

148. Northern slope of hill near the **Toma de Agua de La Asuncion.** 12.7.1936.
250; chiefly serpentine-debris; few, scattered herbs, disafforested; under debris with weathered soil and little plant-decay.

149 Above the **Toma de Agua de La Asuncion.** 12.7.1936.
350; peridotite and serpentine-debris; considerable growth of shrubs and small trees; in thin layer of plant-decay, under stones.

150. **Toma de Agua del Encañado,** San Juan Bautista. 13.7.1936.
150; debris of metamorphic rocks; wooded with large trees, mainly *Clusia,* little undergrowth; in thick layer of decaying leaves! of *C. rosea* with percolating water.

151. Plain West of **San Antonio.** 16.5.1936.
20; detritus and debris with much quartz; scattered shrubs and some small trees; between little plant-decay! of *Opuntia Wentiana, Caesalpinia Coriaria* and *Croton Milleri.*

152. **Punta Mosquito,** S of Porlamar. 4.6.1936.
20; limestone; very few, scattered, small shrubs with cacti; under stones without plant-decay.

153 **Gaiquire** island, lagoon NE of Porlamar. 8.7.1936.
5—15; chiefly limestone; few scattered shrubs; under stones.

154. Plain South of **Los Robles,** NE of Porlamar. 18.5.1936.
5; schists- and limestone-detritus; scanty grasses with low, scattered shrubs; between some plant-decay! (6—6½).

155. Patio of the Hotel Central, **Porlamar.** 25.5.1936.
2; garden-mould; cultivated plants; under flowerpots!, in moistened soil!.

156. **Isla Blanca,** S of Pampatar. 9.6.1936.
25; phosphatized rock; a few scattered specimens of *Philoxerus* only; under crusts of guano (< 4) with little decay of *P. vermicularis.*

Los Testigos

157. Northern slope of the **Morro de la Iguana.** 14.6.1936.
40; granitic rock; rather dense growth of shrubs; between some plant-decay! (5½—6) of *Cereus margaritensis* and *Croton flavens.*

Station-number. Locality. Date.
Height in m; soil; vegetation; special habitat (pH).

158. Top of the **Morro de la Iguana.** 14.6.1936.
100; granitic rock; rather dense growth of shrubs and small trees with *Tillandsia*; between sandy plant-decay!, chiefly of *Croton flavens* and *Cereus margaritensis.*

159. **Chiwo.** 15.6.1936.
5—20; granitic rock; considerable growth of shrubs with cacti; under stones with very little leaf-decay and some weathered soil.

160. **Angoletta.** 15.6.1936.
5—10; porphyrites; considerable growth of shrubs and herbs with many cacti and *Croton*; between plant-decay! (6½—7).

161. Pos Inglés, **Tamarindo.** 16.6.1936.
20; granitic rock; shrubs and small trees; between wet leaf-decay! of *Hippomane Mancinella.*

162 Eastern slope of the Morro Grande de **Tamarindo.** 16.6.1936.
150; granitic rock; considerable growth of shrubs and small trees with *Tillandsia*; under debris, between plant-decay (6—6½).

163 Near the top of the Morro Grande de **Tamarindo.** 16.6.1936.
200; granitic rock; considerable growth of shrubs; under stones, in weathered soil (5½—6).

163A Near the top of the Morro Grande de **Tamarindo.** 16.6.1936.
200; granitic rock; shrubs with epiphytes; between dead *Bromeliaceae*!.

163B Top of the Morro Grande de **Tamarindo.** 16.6.1936.
200; granitic rock; mainly ferns and mosses; between creeping *Polypodium*!.

164. Top of the **Isla de Conejo.** 17.6.1936.
80; porphyrite; few, small, scattered shrubs; under stones with some guano and very little plant-decay.

165. Cave on the southern slope of the **Isla de Conejo.** 17.6.1936.
30; porphyrite; practically none (shady); under stones with some pulverous soil and very little bat-manure (5—5½?).

Los Frailes

166 Southwestern slope of **Puerto Real.** 18.6.1936.
60; diabasic-diorite; shrubs; between some plant-decay! of *Croton flavens* and *Opuntia Wentiana* (6½—7), under stones.

167. Western slope of **Puerto Real.** 18.6.1936.
40; diabasic-diorite; rather considerable growth of shrubs; between some leaf-decay! (6½—7), under stones with leaf-decay and goat-manure (5½—6).

168. Western slope of **La Pecha.** 19.6.1936.
40; chiefly porphyrites; considerable growth of low shrubs, mainly *Croton* and *Opuntia*; between some leaf-decay! on sandy soil (5½—6).

168A Northern top of **La Pecha.** 19.6.1936.
60; chiefly porphyrites; low shrubs; under stones with some guano.

Los Hermanos

169. Top of the **Morro Fondeadero.** 20.7.1936.
80; hornblende-rock; shrubs, mainly *Croton flavens* and cacti; under stones with leaf-decay.

170. Top of the **Morro Pando.** 20.7.1936.
200; diorite; scattered shrubs, mainly cacti; under stones and in fissures with little plant-decay, in dead *Cephalocereus lanuginosus!*.

Blanquilla

171. North of **Valuchu,** SE Blanquilla. 21.7.1936.
20; chiefly coral-limestone; low shrubs with few small trees, mainly *Croton, Mimosaceae* and *Condalia*; under stones with little leaf-decay! of *Cond. Henriquezii* and *Cr. flavens.*

172. Near the coconut-grove of **El Jaque,** SW Blanquilla. 22.7.1936.
2; diorite-detritus; several trees of *Coccoloba*; in layer of leaves! of *C. uvifera.*

172A. Coconut-grove of **El Jaque.** 22.7.1936.
1; diorite-detritus; several coconuts; under decaying leaves of *Cocos* on muddy soil, the same on salty mud.

172B. Puerto **El Jaque.** 22.7.1936.
6; coral-limestone; few scattered low shrubs; in fissures.

Tortuga

173 **Southwestern Tortuga.** 1.8.1936.
20; coral-limestone; shrubs and small trees with much *Condalia* and cacti; under flat stones with some plant-decay.

173A **Southwestern Tortuga.** 1.8.1936.
1; coral-limestone; some scattered shrubs; under flat stones with some sandy soil and nearly no plant-decay.

Orchila

174. Southern slope of the Cerros de la Federación, **Huespén.** 23.7.1936.
40; granitic rocks; few, scattered, low shrubs; between some leaf-decay! of *Cordia cylindrostachya* from fissures (6½), under stones.

175. Southwestern **Huespén.** 23.7.1936.
1; coral-limestone; scattered shrubs; between some plant-decay under shrubs.

Los Roques

176. Cabecera del **Gran Roque.** 25.7.1936.
15; amphibolites; very few, small, scattered shrubs; between some *Aloe vera.*

Station-number. Locality. Date.
Height in m; soil; vegetation; special habitat (pH).

177. Western part of the **Isla Larga.** 26.7.1936.
½—1; coral-sand; scanty beach-vegetation; between leaf-decayl of *Rhizophora.*

178. Western part of the **Cayo de Agua.** 26.7.1936.
2; coral-sand; beach vegetation with a few coconuts; under dead trunk of *Cocos.*

Las Aves

179. **Ave de Barlovento.** 27.7.1936.
2; coral-sand; beach-vegetation; under debris of brickwork with sand and practically no plant-decay.

179A. **Ave de Barlovento.** 27.7.1936.
2; coral-sand; beach-vegetation; between clumps of *Cyperaceae.*

Bonaire

180. **Cay,** entrance of the Lac. 29.3.1937.
½; coral-sand; mangroves and beach-vegetation; in thin layer of leaves of *Avicennia.*

181 Near **Zuidpunt.** 26.3.1937.
1; coral-limestone; few scattered low shrubs of *Conocarpus*; on bare rock and in fissures with some leaf-decay of *C. erecta.*

182. North-west of the Lansberg Putten, **Zuidpunt.** 26.3.1937.
¼; coral-limestone with sinter deposits; none; under tufa-crusts on, and in, soft, clayish substance.

183. Kamber Largoe, **Grot Watapana,** Lima. 1.4.1937.
½—1; coral-limestone; none (practically dark); between weathered tufa-deposits with traces of bat-manure (28½ °C, moisture 85%).

183A. Kamber di Awa abau, **Grot Watapana.** 1.4.1937.
½; limestone; none (dark); on moistened deposit of calcite-scales (29½ °C, moisture 95%).

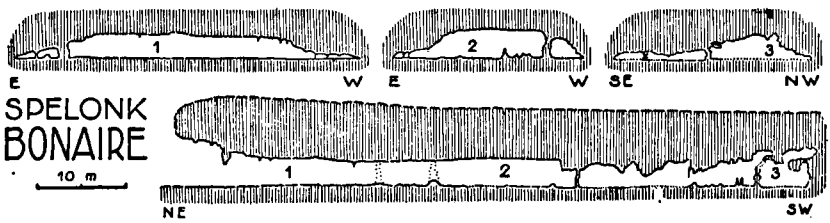

Fig. 4. Spelonk, Bonaire, cross- and length-sections; coral-limestone, 3—7½ m high. Stat. 188 is situated in the Kamber Largoe, between 2 and 3, St. 189 in the Kamber Chikitoe, 10 × 9 × 2 m, the most southeastern part of the cave (×).

184. Southwestern **Lima.** 14.11.1936.
3; coral-limestone; scattered shrubs and a few small trees, mainly *Croton, Conocarpus* and *Haematoxylon*; between leaf-decay of *Con. erecta,* under stones.

184A Southwestern **Lima.** 31.3.1937.
2; coral-limestone; scattered shrubs, mainly *Croton* and *Opuntia.*

185 Northwestern **Lima.** 14.11.1936.
½; coral-limestone; scattered shrubs and small trees; between leaf-decay of *Conocarpus erecta* with weathered soil.

185A Pos Baca, S of **Kralendijk.** 27.9.1930.
1½; coral-limestone; scattered shrubs, mainly cacti; on *Melocactus.*

186 Near Tanki George, **Deenterra.** 25.3.1937.
3; diabase-detritus on coral-limestone; scattered shrubs and small trees, mainly *Caesalpinia, Opuntia* and *Croton.*

187 Before the cave of Spelonk, **Bolivia.** 24.3.1937.
6; coral-limestone; scanty shrubs, mainly *Croton*; between some leaf-decay of *C. flavens,* under stones.

188. Kamber Largoe, **Spelonk,** Bolivia. 24.3.1937.
7; coral-limestone; none (practically dark); under debris of tufa-deposits with some pulverous soil and traces of bat-manure (27½ °C, moisture 80%).

189. Kamber Chikitoe, **Spelonk,** Bolivia. 24.3.1937.
7; coral-limestone; none (dark); between tufa-deposits with some residual soil, without bat-manure (28½ °C, moisture 90%).

190 Escarpment near **Fontein.** 25.3.1937.
50; coral-limestone; scattered small trees and shrubs; under debris.

190A South of **Fontein.** 20.5.1930.
80; coral-limestone; shrubs and small trees with *Agave*; under stones.

191. Ruïns of the bath of **Fontein.** 30.3.1937.
40; coral-limestone; shrubs; under debris of brickwork with some decay.

192. Tunnel of the spring of **Fontein.** 13.11.1936.
25; coral-limestone; practically none (shady); under stones in moistened detritus with leaf-decay.

193 **Hofje Fontein.** 30.3.1937.
22; weathered soil; irrigated fruitplantation; under debris and between plant-decay near fountain.

194. **Tanki Onima.** 13.11.1936.
3; porphyrite-detritus and coral-limestone; some scattered trees, mainly *Conocarpus* and *Crescentia*; on moistened leaf-decay! of *Con. erecta* and *Cr. Cujete,* under stones with detritus (7—7½).

Station-number. Locality. Date.
Height in m; soil; vegetation; special habitat (pH).

195 East of **Boca Onima.** 13.11.1936.
6; coral-limestone; few scattered shrubs with *Cereus repandus* and *Lemairocereus griseus.*

196 West of **Boca Onima.** 13.11.1936.
8; coral-limestone; few scattered shrubs, mainly *Cereus repandus.*

197 Western foot of the Seroe **Brandaris.** 27.3.1937.
30; porphyrite, rather considerable growth of shrubs and small trees.

198 Near Pos **Bronswinkel,** N of the Brandaris. 27.3.1937.
35; porphyrite; considerable growth of shrubs; under stones with little leaf-decay.

Klein Bonaire

199 **Southeastern Klein Bonaire.** 15.11.1936.
3; coral-limestone; scattered shrubs, mainly *Croton flavens.*

199a **Southeastern Klein Bonaire.** 23.3.1937.
3. coral-limestone; scattered shrubs, mainly *Croton.*

199b **Southeastern Klein Bonaire.** 14.5.1930.
3; coral-limestone; scattered shrubs, mainly *Croton*; under stones with little leaf-decay.

199A **Tanki Calbas.** 15.11.1936.
1; coral-limestone; scattered *Croton, Crescentia* and *Opuntia*; under stones with detritus.

Klein Curaçao

200. North of the **lighthouse.** 29.8.1936.
1; coral-limestone; very few, scattered herbs; under stones with weathered soil (8—9).

200A Near the **lighthouse.** 29.8.1936.
2; coral-limestone; very scanty beach-vegetation.

Curaçao

201. Top of the **Seroe Ronde Klip.** 20.10.1936.
125; coral-limestone; shrubs, mainly *Croton, Jatropha* and *Opuntia*; under flat stones with littele leaf-decay.

201A South of the Seroe **Ronde Klip.** 20.10.1936.
40; diabase; shrubs, chiefly *Croton*; between some decay of *C. flavens* and *Opuntia Wentiana.*

202. Top of the **Seroe di Boca, St. Joris.** 7.9.1936.
40; coral-limestone; very few scattered herbs; in holes with residual soil and in fissures without plant-decay.

202A. Northern escarpment of the **Seroe di Boca.** 7.9.1936.
5—10; coral-limestone; some trees of *Hippomane* and few shrubs; under stones with little plant-decay and weathered soil.

203. Northwestern top of the **Seroe Mainsjie,** Klein St. Joris. 7.9.1936.
40; marly-limestone; few, scattered shrubs; under debris with little leaf-decay and some residual soil.

204. Southern slope of the **Oost Seinpost,** Fuik. 9.9.1936.
25—40; diabase; scattered shrubs, mainly *Cordia*; under stones with very little decay of *Hippomane Mancinella,* between *Agave vivipara.*

204A North of **Landhuis Fuik.** 9.9.1936.
25; diabase; scattered shrubs, mainly *Croton*; on desintegrated rock with little leaf-decay (6—6½).

205. Rooi Manzalienja, N of the **Tafelberg, St. Barbara.** 4.9.1936.
2—3; diabase-detritus; grove of *Hippomane*-trees; in layer of leaves and other decayl of *H. Mancinella.*

206. Northern escarpment of the **Tafelberg,** St. Barbara. 4.9.1936.
140—160; coral-limestone; scattered shrubs and small trees; under stones and in fissures with plant-decay.

207. Near the Grot van **Newport,** St. Barbara. 2.9.1936.
7—9; coral-limestone; shrubs and small trees, mainly *Croton, Opuntia, Caesalpinia* and *Condalia*; under stones with some leaf-decay of *Caes. Coriaria* (7—8).

208. Entrance of the **Grot van Newport,** St. Barbara. 2.9.1936.
6; coral-limestone; nearly none; under debris with little plant-decay on residual soil (5½—6½).

209. **Grot van Newport,** St. Barbara. 2.9.1936.
5—6; coral-limestone; none (dark); between debris and in holes with some pulverous soil (4½—5½).

210 Near the Quarantaine, **Kabrietenberg,** Caracas Baai. 16.10.1936.
25; diabase with debris of coral-limestone; shrubs; under debris with little plant-decay.

211 Southern escarpment N of **Fort Beekenburg,** Caracas Baai. 16.10.1936.
10—15; coral-limestone; mainly some *Croton* and *Hippomane*; under debris, in clayish soil.

212. St. Jago, **Schaarloo,** Willemstad. 26.10.1936.
30—35; coral-limestone; scattered shrubs with few trees, mainly *Croton*; under stones with some detritus.

213. West of the **Seroe Pretoe,** Piscadera. 9.10.1936.
30; coral-limestone; shrubs and a few small trees, mainly *Croton*; under debris with some leaf-decay.

213A Northern escarpment of the **Seroe Domi,** Willemstad. 12.4.1930.
75; coral-limestone; scattered shrubs, mainly *Croton*; under debris.

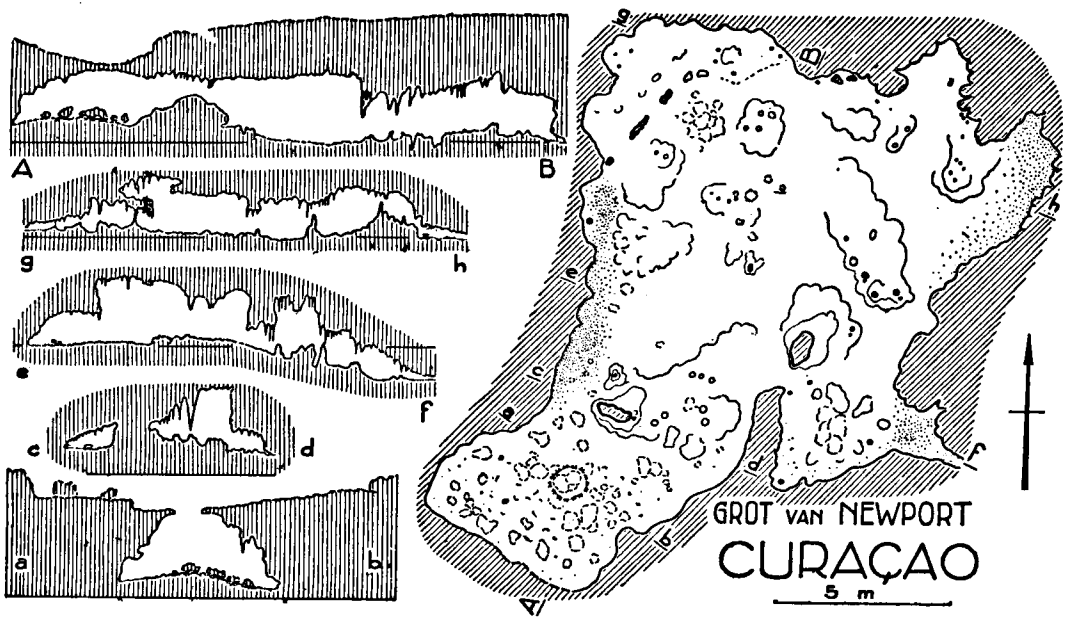

Fig. 5. Cave of Newport, Curaçao; coral-limestone, 3—7 m high. Stat. 208 is situated near the entrance, St. 209 in the northeastern part of the cave.

214 South-east of the **Jack Evertszberg,** Piscadera. 10.10.1936.
5—20; coral-limestone; scattered shrubs, mainly *Croton*; under debris with little leaf-decay.

215 Northwestern escarpment of the **Seroe Spreit,** Malpays. 23.10.1936.
10—40; coral-limestone on diabase; some shrubs with a few small trees, chiefly *Croton, Cordia, Opuntia* and *Hippomane*; under stones and in fissures.

216. **Hofje Hato.** 13.10.1936.
10; weathered soil; irrigated fruitplantation; between decaying leaves!.

217. Before the Grot van **Hato.** 17.9.1936.
30; coral-limestone; mainly *Croton* with cacti and *Hippomane*; under debris with some leaf-decay and some residual soil.

218. Kamber di Ventana, **Grot van Hato.** 21.9.1936.
50; coral-limestone; practically none (shady); under stones with some residual soil.

219. Kamber di Pilar, **Grot van Hato.** 16.9.1936.
50; coral-limestone; none (dark); in bat-manure! with some pulverous soil!, under stones.

219A. Kamber di Noche, **Grot van Hato.** 16.9.1936.
50; coral-limestone; none (dark); under stones with residual soil (7—8?).

220 Base of the escarpment near Bron **Wandongo,** Hato. 6.10.1936.
10; coral-limestone; considerable brush with herbs.

221 South of the Landhuis **Groote Berg.** 22.10.1936.
75; coral-limestone; rather considerable growth of shrubs, mainly *Croton* with cacti.

222 Western border of the **Koenoekoe Abau,** Midden Curaçao. 9.11.1936.
70, desintegrated sandy-shales; scattered shrubs and small trees, mainly *Caesalpinia, Opuntia* and *Croton* (soil 5½—6).

223 Northern escarpment near the Landhuis **Hermanos.** 9.11.1936.
40—50; chiefly coral-limestone; rather considerable growth of shrubs.

224 Eastern escarpment of the **Seroe Kabritoe,** St. Marie. 9.11.1936.
40—50; coral-limestone on sandstone; considerable growth of shrubs, mainly *Croton*; between debris.

225. Northern escarpment of the **Seroe Cabajé,** Porto Marie. 9.11.1936.
30—50; chiefly coral-limestone; shrubs with a few small trees, mainly *Croton*; under debris with little plant-decay.

225a Northern escarpment of the **Seroe Cabajé.** 14.4.1930.
30—50; chiefly coral-limestone; scattered shrubs; under debris.

226 Base of the escarpment N of **San Pedro.** 22.10.1936.
10—15; coral-limestone; scattered shrubs, mainly *Croton, Cordia, Lemaireocereus* and *Opuntia.*

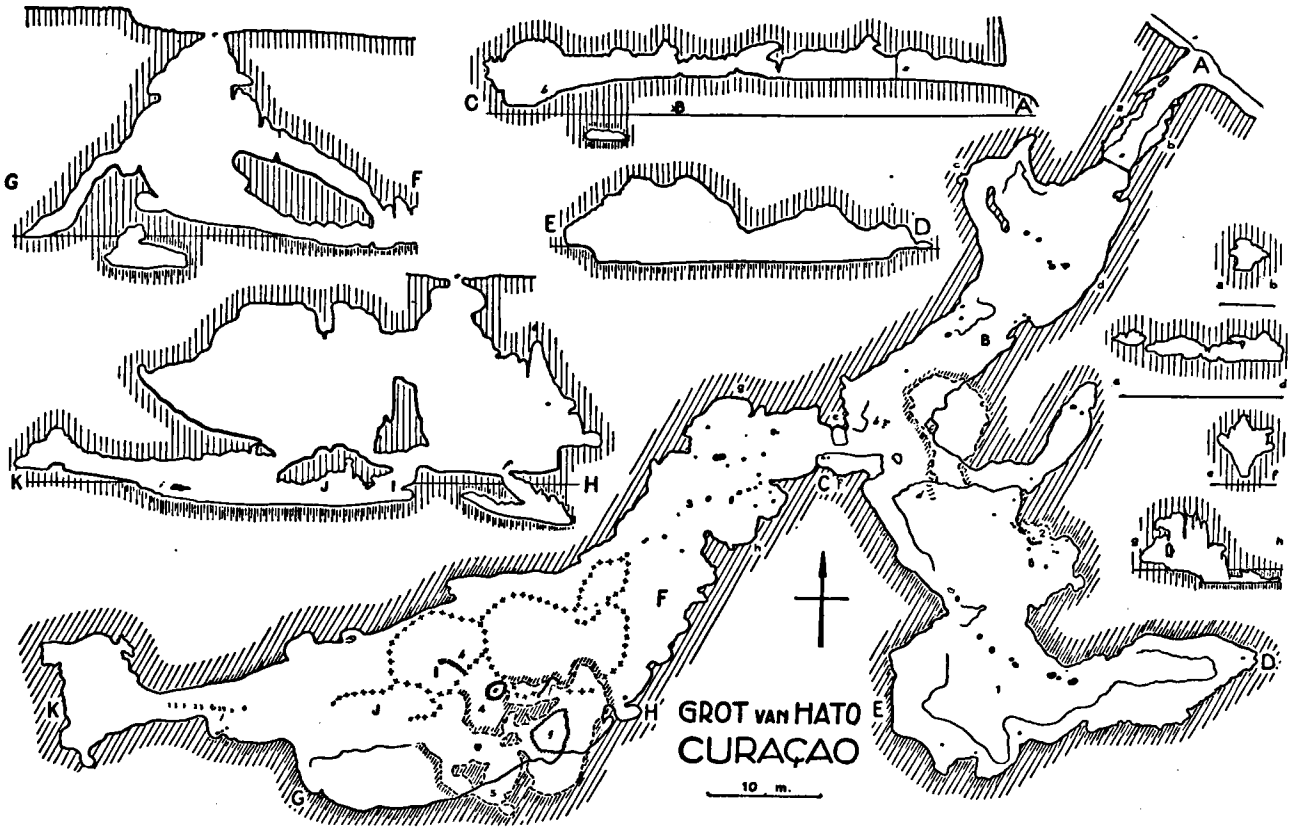

Fig. 6. Cave of Hato, Curaçao; coral-limestone, 45—67 m high. 1 - Kamber di Noche, Stat. 219A; 2 - exposure of cavern-water in the Kamber di Awa, St. 73; 3 - Kamber di Pilar, St. 219; 4 - Kamber di Ventana, St. 218. a - door, giving admittance; b, d, h, i - roughly hewn steps; c, f, g - apertures in the floor, giving admittance to lower caverns; e - opening in the roof.

227 Eastern escarpment of the **Seroe di Cueba,** St. Hyronimus. 29.10.1936.
40—45; coral-limestone; shrubs and some small trees; between debris with *Agave vivipara.*

227a Eastern escarpment of the **Seroe di Cueba.** 30.4.1930.
40—45; coral-limestone; mainly *Croton* with *Agave.*

228. Calbas Boshi, N. of the **Seroe di Cueba,** Savonet. 29.10.1936.
10; coral-limestone; several shrubs and small trees; under stones with diabase-detritus.

229 Base of the western escarpment of the **Seroe Bartool,** St. Hyronimus. 29.10.1936.
45—50; diabase with limestone-debris; shrubs and small trees, mainly *Croton.*

229A West of the Seroe Bartool, **Savonet.** 29.10.1936.
45; desintegrated diabase; shrubs and small trees.

230 **St. Silvester,** Wacao. 22.11.1936.
15; weathered diabase; mainly grasses; under few, scattered stones.

231 Western escarpment of the **Seroe Teintje,** Savonet. 27.10.1936.
30; limestone; considerable growth of shrubs, mainly *Croton, Haematoxylon* and cacti.

232 Eastern slope of the **Tafelberg, St. Hyronimus.** 10.11.1936.
60—70; diabase with coral-limestone; scattered shrubs, mainly *Croton.*

233 Rooi Sorsaka, W. of the **Tafelberg,** St. Hyronimus. 8.11.1936.
25—35; desintegrated diabase; rather dense growth of shrubs, mainly *Croton* and *Lemaireocereus.*

234. Northern top of the **Seroe Christoffel.** 7.3.1937.
340; cherts; shrubs and small trees; between decaying leaves! of *Clusia rosea,* in fissures and under stones.

235. Northwestern slope of the Seroe **Christoffel.** 10.11.1936.
200; cherts; considerable growth of small trees and shrubs; between debris with decaying leaves and some weathered soil! (5—6).

236. **Rooi Sánchez,** Knip. 11.11.1936.
190; cherts; dense growth of shrubs and small trees; in moistened leaf-decay with weathered soil.

237 **Boca Tabla,** near Westpunt. 27.10.1936.
7; coral-limestone; nearly none; under stones and in fissures.

238. **Boshi di Westpunt.** 27.10.1936.
2; diabase-detritus with coral-limestone; *Hippomane*-grove; under stones and between decaying leaves of *H. Mancinella* with detritus (5½—6).

239 South of **Westpunt** Baai. 27.10.1936.
7; coral-limestone; scattered shrubs, chiefly *Croton.*

240 Escarpment North of **Plaja Abau,** Knip. 6.11.1936.
10—15; coral-limestone; considerable growth of shrubs and some small trees; between debris with some decay.

Station-number. Locality. Date.
Height in m; soil; vegetation; special habitat (pH).

240A North of **Plaja Abau,** Knip. 6.11.1936.
7; coral-limestone; scattered shrubs, chiefly *Croton.*

241 South of **Plaja Abau,** Knip. 6.11.1936.
7; coral-limestone; shrubs with some small trees; between debris.

242. Northeastern escarpment of the **Seroe Djerimi,** Knip. 6.11.1936.
35—45; chiefly coral-limestone; considerable growth of *Croton* with *Opuntia* and *Lemaireocereus*; under debris and in fissures with weathered soil (7—7½).

242A. North-east of the **Seroe Djerimi,** Knip. 6.11.1936.
25—30; desintegrated diabase with limestone-debris; some shrubs; under debris with leaf-decay (5½—6).

242B North-west of the **Seroe Djerimi,** Knip. 6.11.1936.
9; coral-limestone; few low *Croton*-shrubs; between debris.

243 North of the **St. Kruis Baai.** 24.10.1936.
8—12; coral-limestone; shrubs of *Croton* with few, small trees.

243A Top of the **Seroe Commandant,** St. Kruis. 24.4.1930.
120; chiefly cherts; dense growth of shrubs and small trees, mainly; cacti; between debris and plant-decay.

244. **Plaja Chikitoe,** S of the St. Kruis Baai. 24.10.1936.
5—8; coral-limestone with diabase-detritus; considerable growth of shrubs and small trees; under debris with little leaf-decay.

245. **Hofje St. Kruis.** 24.10.1936.
2; diabase-detritus; mango-grove; in layer of decaying leaves of *Mangifera* on weathered soil.

245A Slope near Hofje **St. Kruis.** 24.10.1936.
5—15; diabase; scattered shrubs with cacti.

Aruba

246. Bron di **Rooi Prins.** 9.1.1937.
20; chiefly schists; some shrubs and small trees; under stones with some leaf-decay of *Bontia daphnoides.*

247. **Dunes of Boca Prins.** 9.1.1937.
20; coral-sand; scattered bushes of *Tournefortia* and some little clumps of *Euphorbia*; between leaf-decay! of *T. gnaphalodes* and little *E. thymifolia.*

247A West of **Boca Prins,** near the dunes. 9.1.1937.
6; coral-limestone; several *Melocactus* and *Euphorbia.*

248 East of **Boca Prins.** 9.1.1937.
12; coral-limestone; few scattered shrubs of *Corchorus*; in fissures with little leaf-decay of *C. hirsutus.*

248A South of **Fontein.** 5.7.1930.
35; coral-limestone; scattered shrubs.

249. Before the Grot van **Quadirikiri,** SE of Fontein. 9.2.1937.
15; coral-limestone; some shrubs and small herbs; under stones, between leaf-decay of *Anthirrhoea acutata.*

250. Kamber di Ventana, **Grot van Quadirikiri.** 9.2.1937.
25; coral-limestone; practically none (shady); under stones with little detritus (25—30 °C; moisture 78%).

251. Kamber di Leeuw, **Grot van Quadirikiri.** 9.2.1937.
25; coral-limestone; none (dark); in bat-manure! (3?) and pulverous residual soil! (3½—4) (29 °C; moisture 93%).

251A. Kamber di Leeuw, **Grot van Quadirikiri.** 9.2.1937.
25; coral-limestone; scattered *fungus imperfectus* (dark); under stones with some residual soil! and bat-manure!.

252. **Vader Piet,** SE of Fontein. 9.2.1937.
25; diabase; few small, scattered shrubs, mainly *Croton*; under debris with nearly no plant-decay.

252A South-east of **Fontein.** 9.2.1937.
25; chiefly diabase; few small, scattered shrubs; under debris.

253. Terrace-border near the **Boca Grandi,** N of Culebra. 5.1.1937.
25; coral-limestone; scattered low shrubs; between sandy leaf-decay of *Athirrhoea acutata*! and leaf-decay of *Coccoloba uvifera.*

253A **Boca Grandi,** N of Culebra. 5.1.1937.
10; coral-limestone; very few scattered *Capraria, Euphorbia* and grasses; under stones and in fissures with very few *E. thymifolia.*

254. **Culebra,** near Seroe Colorado. 5.1.1937.
30; coral-limestone; few scattered *Opuntia, Capraria* and *Euphorbia*; under debris with practically no plant-decay.

255. Western escarpment of **Rooi Spoki,** N of St. Nicolaas. 6.2.1937.
45—55; coral-limestone; mainly scattered *Opuntia, Jatropha* and *Melocactus*; under debris and in fissures with very little decay.

256 West of **Savaneta.** 5.1.1937.
5; diorite-detritus on limestone; some grasses and shrubs; under stones with weathered soil and some plant-decay.

257. Grove near Pos Grandi, **Rooi Lamoenchi.** 29.12.1936.
3; sand; several scattered coconuts; under decaying leaves! of *Cocos.*

258 Pos Grandi, E of **Rooi Lamoenchi.** 29.12.1936.
2; coral-limestone; few scattered shrubs and herbs, mainly cacti.

258A West of **Rooi Lamoenchi.** 29.12.1936.
25; detritus on coral-limestone; *Aloe*-field with some low shrubs.

259 Western border of the **Isla,** Rooi Lamoenchi. 29.12.1936.
25; coral-limestone; poor *Aloe*-field with some shrubs.

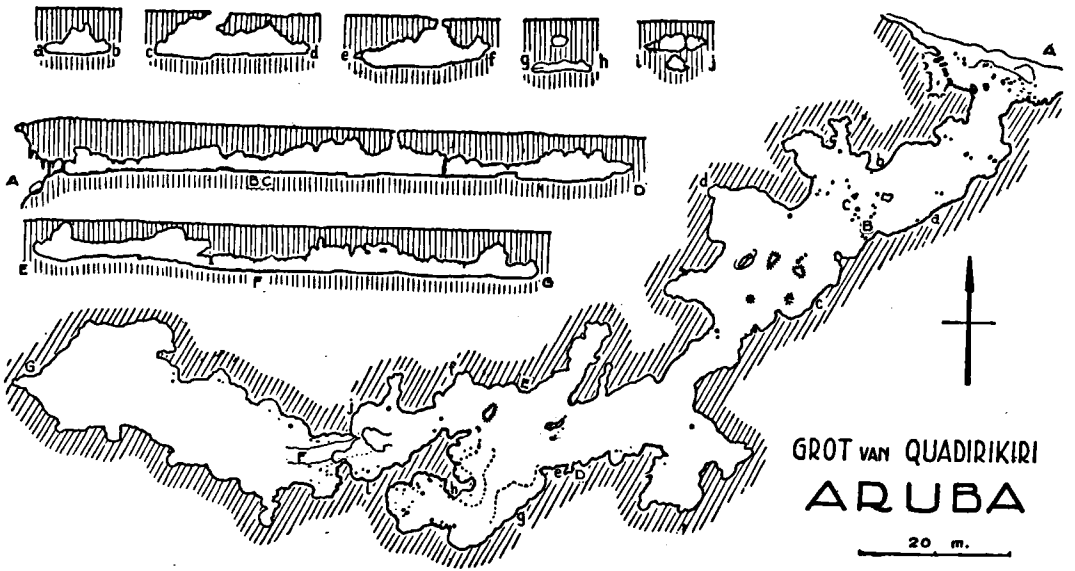

Fig. 7. Cave of Quadirikiri, Aruba; coral-limestone, 24—32 m high. Stat. 250 is situated at cross-section e—f, St. 251—251A at length-section F—G.

260. Eastern escarpment of the **Baranco Alto**, Rooi Lamoenchi. 29.12.1936.
40—50; coral-limestone on diorite; scattered shrubs, mainly *Croton*; under stones and in fissures with little plant-decay.

260A Rooi near the **Baranco Alto.** 29.12.1936.
25; diorite with limestone-debris; several shrubs and trees; under stones with little plant-decay.

260B North of **Rooi Taki**, near Balashi. 29.12.1936.
20; coral-limestone; scattered shrubs.

261 East of **Spaansch Lagoen.** 5.1.1937.
6; coral-limestone; scattered shrubs and herbs.

262 West of **Spaansch Lagoen.** 5.1.1937.
5; coral-limestone; scattered shrubs, mainly *Opuntia, Jatropha* and *Erithalis.*

262A West of **Balashi.** 29.12.1936.
25; limestone with detritus of schists and diabase; *Aloe*-field.

263. Eastern escarpment of **Rooi Francés.** 6.1.1937.
20—25; coral-limestone on diorite; considerable growth of shrubs and small trees with many herbs; between debris with decay.

264 West of **Rooi Barcadera**, near Spaansch Lagoen. 5.1.1937.
8; limestone with diorite-detritus; *Aloe*-field with *Opuntia, Jatropha* and *Caesalpinia.*

265 West of **Rooi Perkietenbosch**, E of Oranjestad. 5.1.1937.
5; coral-limestone; scattered shrubs and herbs with much *Jatropha, Opuntia* and *Cryptostegia.*

265A North-west of **Rooi Perkietenbosch.** 5.1.1937.
5; limestone with diorite-detritus; abandoned *Aloe*-field.

266. Southern slope of the **Seroe Canashito.** 7.12.1936.
55; coral-limestone; scattered shrubs and herbs, mainly *Phyllanthus, Jatropha* and cacti with *Agave*; under stones, in dead *A. viviparal.*

267. Northeastern escarpment of the **Seroe Canashito.** 7.12.1936.
45—65; coral-limestone; scattered shrubs and small trees, mainly *Lemaireocereus, Caesalpinia* and *Opuntia*; under debris with residual soil and goat-manure, under stones near the top (6½—7).

268. Northern escarpment of the **Hooiberg.** 21.12.1936.
120—130; hooibergite; considerable growth of shrubs with much *Opuntia*; under debris and in fissures with some decay.

268A Top of the **Hooiberg.** 21.12.1936.
160; hooibergite; few low, scattered shrubs; under stones and in fissures with practically no decay.

268B Southern slope of te **Hooiberg.** 5.12.1936.
60; hooibergite; shrubs, mainly *Croton* and *Agave*; between leaf-decay! of *A. Rutteniae* with desintegrated rock (4—5).

Station-number. Locality. Date.
Height in m; soil; vegetation; special habitat (pH).

269. **Santa Cruz.** 21.12.1936.
40; diorite; few scattered shrubs, mainly *Croton*, and some mosses; under stones and in fissures with some decay of *Opuntia Wentiana*.

270 Top of the **Jamanota.** 3.1.1937.
185; diabase and schists; few scattered shrubs, mainly *Opuntia* and *Croton*; under debris with little plant-decay.

270A. Southeastern slope of the **Seroe Cristal.** 10.2.1937.
60—70; diorite; few scattered *Jatropha, Opuntia* and *Lemaireocereus*; between debris with decay of *L. griseus*.

271. Eastern border of the **Seroe Plat,** near the S. Cristal. 10.2.1937.
85—90; coral-limestone on diorite; poor *Aloe*-field; under debris on weathered soil.

272. Southern slope of the **Hudishibana,** Westpunt. 9.12.1936.
10—20; coral-limestone on diorite; growth of *Opuntia*; between debris with some decay of *O. Wentiana*.

272A Southwestern slope of the **Annaboei,** near Westpunt. 9.12.1936.
15—25; coral-limestone on metamorphic rock; growth of *Opuntia*; between debris with some decay of *O. Wentiana*.

273. Old goldmine **Tibushi,** near Westpunt. 9.12.1936.
3; detritus, chiefly from metamorphic rock; very few scattered *Opuntia* and *Caesalpinia*; on detritus (5½) with some decay of *O. Wentiana* and *C. Coriaria*.

274 **Hofje Westpunt.** 9.12.1936.
1; detritus; several trees, chiefly *Crescentia*; under stones in moistened soil.

275 **Solito,** W. of Tanki Schipau, N. of Oranjestad. 16.12.1936.
20—25; coral-limestone and diorite-conglomerate; abandoned *Aloe*-field with few small trees; under debris with weathered soil and decay of *Prosopis juliflora*.

276. **Heintje Croes,** near Oranjestad. 14.12.1936.
4; coral-limestone; scattered shrubs and herbs; between debris with weathered soil and decay of *Capraria biflora* and *Prosopis juliflora*.

277. **Mon Plaisir,** near Oranjestad. 15.12.1936.
3; diorite-detritus; scattered aloe with some *Opuntia* and *Jatropha*;

278. **Reef of Boekoeti** (island), S of Oranjestad. 8.2.1937.
½—2; coral-shingle and sand; beach-vegetation, mainly with *Suriana, Sesuvium* and *Rhizophora*; between sandy debris with decay of *Sur. maritima* and *Ses. portulacastrum*.

NW Venezuelan Continent (Paraguaná)

279. Quebrada de la Compañía, **Carirubana.** 15.2.1937.
5—15; marly-limestone; few scattered trees and herbs, mainly *Cercidium* and *Philoxerus*; under debris with little decay of *C. praecox* and *P. vermicularis*.

280. **Cerro Transverso,** E of Carirubana. 16.2.1937.
40; coral-limestone; few scattered thorny shrubs and cacti; under flat stones with very little decay.

281. West of **Santa Ana.** 16.2.1937.
50; sandstone; rather considerable growth of shrubs, mainly *Aveledoa* with *Opuntia*; under stones with little decay of *A. nucifera.*

282. East of **Santa Fé,** N of the Cerro de Santa Ana. 18.2.1937.
50; marly-limestone; shrubs, with much *Opuntia, Croton* and *Schinus*; under debris with very little plant-decay.

283. North-east of **Moruy.** 18.2.1937.
50; debris of gabbroid-rocks; thorny shrubs with much *Croton* and cacti; between debris with sand and little plant-decay.

284. **Cerro de Machuruca,** SE of the Cerro de Santa Ana. 16.2.1937.
300; hornblende-rock; few scattered small trees with *Usnea* and herbs; under stones and in fissures with little decay.

NE Colombian Continent (La Goajira)

285. **Punta Tucacas,** near Puerto López. 14.1.1937.
2; sand; beach-vegetation with much *Conocarpus, Salicornia* and *Philoxerus*; between leaf-decay, chiefly of *C. erecta.*

286. South-west of the **Laguna de Tucacas.** 15.1.1937.
2; sand and debris with much quartz; growth of cacti with some low shrubs; between sandy debris with decaying *Lemaireocereus griseus.*

287. **Castilletes.** 14.1.1937.
3; sand; nearly none, very few scattered *Philoxerus* and *Euphorbia*; under soft sand-crusts with practically no plant-decay.

288. **Uribia.** 17.1.1937.
10; sand and gravel; grassy sabana with cacti, *Jatropha* and *Cercidium*; between decay of *Cereus margaritensis.*

289. Rancheria del **Cabo de la Vela.** 22.1.1937.
6; sand with pebbles of quartz-schists; scattered *Caesalpinia* with cacti and some grasses; under cow-manure, under stones with some decay. between detritus (5—5½) with decay of *Aloe.*

290. **Cabo de la Vela.** 22.1.1937.
20; chiefly gneiss; a few plants of *Jacquemontia* and *Jatropha*; under stones with little decay of *Jacq. cumanensis* and *Jatr. gossypifolia.*

290A. **Cabo de la Vela.** 22.1.1937.
30; sandstone; a few plants of *Jacquemontia, Jatropha* and cacti; under debris with nearly no plant-decay.

291 North of **El Cardón.** 22.1.1937.
2; sand; beach-vegetation, mainly grasses, *Cyperaceae, Philoxerus* and *Capraria.*

292. North-east of **Rio Hacha.** 20.1.1937.
2; sandy soil; bush, mainly cacti, *Mimosaceae* and *Bromeliaceae*; between decaying *Lemaireocereus griseus.*

Station-number. Locality. Date.
Height in m; soil; vegetation; special habitat (pH).

293. 1 km South of **Rio Hacha.** 18.1.1937.
5; soft marly-limestone; scanty shrubs, mainly *Croton, Opuntia* and *Caesalpinia*; between some plant-decay with weathered soil!.

294. 2 km South of **Rio Hacha.** 18.1.1937.
25; sandy soil; considerable growth of shrubs and small trees with much *Croton, Mimosaceae, Cactaceae* and *Bromeliaceae*; in thin layer of plant-decay (6½).

Trinidad

295. North of **Tetron Bay.** 7.5.1936.
30—40; schists; considerable growth of shrubs; between plant-decay!, chiefly *Bromeliaceae.*

295A Near **Four Roads.** 7.5.1936.
2; weathered soil; poor coconut-grove; between plant-decay!.

St. Kitts

296. East of **Basseterre.** 19.3.1937.
5—10; weathered soil; grassy field with shrubs; under cow-manure.

St. Eustatius

297. North-east of **Oranjestad.** 18.3.1937.
20; desintegrated volcanic-rock; scattered grasses with *Agave*; between debris with a little plant-decay.

Saba

298 **The Bottom.** 18.3.1937.
200; volcanic-rock; grasses and shrubs; between debris with some decay.

St. Martin

299. Western slope of the **Signal Hill,** SE of Philipsburg. 17.3.1937.
60—80; shrubs and herbs, mainly *Croton* and cacti; in fissures and between debris with some plant-decay.

299A. Western slope of the **Signal Hill.** 17.3.1937.
180—200; considerable growth of shrubs and trees; in fissures with plant-decay and under stones.

St. Thomas

300 The **Drake Seat,** near Charlotte Amalie. 16.3.1937.
300; cherts and conglomerates; considerable growth of herbs and shrubs; under debris with some plant-decay.