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# West Indian amphipod families and genera of the Wagenaar Hummelinck expeditions (Amphipoda, Crustacea)

## List of sampling stations 1930-1973

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April 1997

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University of Amsterdam

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## INTRODUCTION

The conservation and scientific evaluation of major zoological collections is a relatively time-consuming task that crucially depends on regular financial support. In times of low funding and limited grants these activities are often cut back to a minimum. Samples and specimens are stored in available spaces, where they remain, more or less well preserved, until better times allow us to unravel their biological secrets.

This spring, a subsidy granted by the Beyerinck Popping Foundation supported the study of collection of amphipods that have been stored unsort at the Institute for Systematics and Populationbiology (ISP) for a considerable time, the oldest specimens dating from 1930. Originating from the extensive West Indian sample material of Dr. Wagenaar Hummelinck, these amphipods, together with all kinds of tiny crustaceans, were initially sorted in the sixties by students and staff members of the University of Utrecht. Then they were packed up in four wooden crates and left in storage to await further investigation. Now, with the opportunity to sort these samples to the family level a subsequent step can be made, allowing a first evaluation of this promising and fascinating collection material.

Over a period of 49 years, from the First Utrecht Geological Expedition to the Antilles in 1930 to the 1979 trip to the Cayman Islands, Dr. Pieter Wagenaar Hummelinck, who celebrated his 90$^{th}$ birthday on January 13$^{th}$, 1997, either conducted or accompanied numerous expeditions to the West Indies. Although his field of interest was remarkably widespread, including hydroids, cicindelids, land mollusks, cactuses and agaves, his collecting trips were never restricted to certain groups. His work yielded an enormous amount of zoological and botanical material from terrestrial as well as aquatic habitats, some of which he sampled repeatedly over the years in order to fill 'sample gaps'. Conscious of environmental changes on the West Indian Islands, for example, due to increasing tourism, Hummelinck had a 'feeling' for vulnerable habitats. His sampling series from the Piscadera Bay, which has since been converted into a harbor, might serve as an unique case study, comprising both ecological and taxonomic aspects.

## METHODS

The amphipod samples were dissected in glycerin and classified to the family or genus level with the help of the literature. Identified specimens were preserved in new containers in 70 % ethanol. Other crustacean or invertebrate groups have been identified to various higher taxonomic levels.

## NOTES TO THE LIST OF STATIONS

In Part I, unclassified specimens of several West Indian expeditions have been evaluated. Station numbers and descriptions of localities, sorted by number rather than geographically or chronologically, are adopted unchanged from the original labels or lists (Wagenaar Hummelinck, 1953, 1977, 1981). In most instances, the text on the labels was less detailed than the corresponding text of the published list. To give as much information as possible and distinguish between labels and lists, all list descriptions are enclosed in square brackets. Amphipod families and genera are printed in bold characters. After each taxon, the amount of preserved individuals is enclosed in simple brackets, different taxa are separated by a comma.

During the identification of specimens, predominantly originating from Bonaire (Lac) and Curaçao (Piscadera Bay), an attempt was made to find a representative choice of the complete geographical sample range.

In the second part, a short summary of West Indian amphipod species is given. Some of the listed species, classified and described by Knud Stephensen in 1933a-b and 1948, originate from Wagenaar Hummelinck sample stations.

## LIST OF STATIONS

## PART I: WEST INDIAN AMPHIPOD FAMILIES AND GENERA

**023** Land habitat

Date: 15. VI. 1973

Location: **JAMAICA**

Drunkemans Key (decay of algae, etc.).

[Drunkemans Cay, Altitude: 0-1m; special habitat: sandy beach with sea grass cast ashore.]

Samples: **Talitridae:** ***Orchestia*** (± 100).

**079** Land habitat

Date: 26. VI. 1973

Location: **ST. MARTIN**

Simson Bay Lagoon near Mullet Pond (sea grass decay).

[Altitude: 0-_m; soil: rocky shore with sand; special habitat: some decay of sea grass.]

Samples: **Talitridae:** ***Orchestia*** (± 50); **Hyalidae** (16).

Isopoda: Asellota (2).

**0100** ?

Date: 15. VII. 1973

Location: **ST. MARTIN**

Islet Pinel (sandy debris on beach).

Samples: **Talitridae:** ***Talorchestia*** (44).

Isopoda: Oniscoidea (8).

Notes: Apparently, station **0100** has not been listed. It might be located nearby station **0102**:

["Islet Pinel, NE St. Martin, 15. VII. 1973. Waterbody: 2 x 2 x _ m; origin: semi-permanent pool in sandy beach; sheets of algae; water: polyhaline".]

**364** Land habitat

Date: 17. I. 1949

Location: **ARUBA**

Reef Boekoeti.

Samples: **Talitridae:** ***Orchestia*** (± 300).

**376 A** Fresh and brackish water habitat

Date: 3. IX. 1948

Location: **BONAIRE**

Sheet [of water,] N Kralendijk.

Samples: Notostraca.

Notes: Unfortunately, this sample did not contain any preserveable individuals but streaks of dissolved tissue, several fragments of carapaces, and (well-preserved!) mandibles.

**413** Land habitat

Date: 28. VI. 1949

Location: **NEVIS**

Fort Charles [Charlestown].

Samples: **Talitridae:** ***Orchestia*** (± 40).

**433** Land habitat

Date: 8. VII. 1949

Location: **ST. EUSTATIUS**

Concordia Bay.

[Altitude: _ m; soil: sand; vegetation: none; special habitat: between and below 10-20 cm thick layer of *Halodule* and some *Sargassum*, cast ashore, on pure sand.]

Samples: **Talitridae** (± 30).

Notes: The talitrids seemed to be mostly juveniles. The sample also contained 2 species of Coleoptera.

**439 A** Land habitat

Date: 26. VII. 1949

Location: **SABA**

Behind the mountain, top.

[Altitude: 900?; soil: andesitic rock, clayish soil; vegetation: banana grove, some boulders and wet cliffs with pending mosses, etc.; special habitat: on and between stems and leaves of banana trees in moist surroundings.]

Samples: Isopoda (1).

**450** Land habitat

Date: 1. VI. 1949

Location: **ST.BARTS**

Gustavia, harbour.

Samples: **Talitridae:** ***Talitrus*** (± 30); **Hyalidae** (± 30).

Polychaeta (± 5).

Notes: The relatively small specimens (Polychaeta: 2 mm, Talitridae: up to 4 mm, Hyalidae: up to 3 mm) were preserved together and stored in the Talitridae-glass jar. Ten hyalids were stored apart in the Hyalidae-glass jar.

**481** Land habitat

Date: 20. VI. 1949

Location: **ANGUILLA**

Forest Point [beach].

Samples: **Talitridae,** ***Talorchestia*** (± 100).

**764** Land habitat

Date: 11. II. 1964

Location: **MARTINIQUE**

Islet Hardy [beach], W (algae).

[Altitude: _ m; soil: sand; special habitat: thick layer of wet algae.]

Samples: **Talitridae:** ***Talorchestia*** (± 500).

**1099 b?** Saltpond habitat?

Date: 4. IV. 1955

Location: **BONAIRE**

Salinja. Slagbaai.

Samples: **Hyalidae:** ***Parhyale*** (± 30).

Notes: The sample contained a handwritten label without station number. Most probably, the corresponding station is listed as **1099 b** (saltpond habitat).

**1058** Marine habitat

Date: 10. IX. 1948

Location: **BONAIRE**

South of Kralendijk, near [De] Hoop (rock, reef-debris, sand).

[Limestone cliff with sandy reef; 0-1_ m.]

Samples: **Gammaridae** (12); **Oedicerotidae** (8); **unidentified Amphipoda** (5).

Isopoda (10, 1).

Notes: Because they were missing important body parts, five specimens of amphipods have been left unidentified.

**1114** (A) Marine habitat

Date: 12. V. 1949

Location: **ISLOTE AVES** (W of Dominica)

Label 1: N[orthern] lagoon (sand, rocks; tidal zone).

[Sandy shore with some debris of coral and beachrock; 0-1 m deep.]

Label 2: **1114A**, N. lagoon (sandy rocks; lower zone).

[Sandy coral debris; _-1_ m.]

Samples: **Melitidae:** ***Elasmopus*** (± 150), ***Maera*** (± 70, 1); **Isaeidae** (± 30).

Isopoda: Flabellifera (± 20), Asellota (±3); Tanaidacea (± 3); Copepoda (± 10).

Holothurioidea (1); Hydrozoa: Hydroida (± 3); Porifera (1); Nematoda (?); Polychaeta (± 6, ± 2).

Notes: Except for a single individual of the genus *Maera*, all specimens of this sample were left unseparated in a new glass container. The single male melitid was preserved apart because his conspicuous, enormous second gnathopods clearly distinguished it from the 70 *Maera*-specimens (also with enlarged second gnathopods). However, the gnathopods might be a morphologic aberration as well as a character of a distinct species.

The two different labels in this sample suggest that specimens of two (close) localities have been preserved in the same glass container.

**1124** Marine habitat

Date: 2. VI. 1949)

Location: **LA FOURCHE**

Label 1: Five Island Bay, N. E. shore.

[Rocky shore with andesitic debris, some *Syringodium* and *Halodule*; 0-_ m deep.]

Label 2: Fourche (W. of St. Baris) (rocky beach; tidal and lower zone).

Samples: **Ampithoidae:** ***Ampithoe*** (± 12).

Notes: This sample contained two labels of apparently two different localities.

**1216** Marine habitat

Date: 4. VI. 1936

Location: **MARGARITA**

Punta Mosquito, near [S of] Polamar (rock; tidal and lower zone).

[Sandstone and shale; 0-1 m deep.]

Samples: **Hyalidae** (± 14); **Ampithoidae** (2); **Melitidae:** ***Maera*** (± 7), ***Elasmopus*** (8); **Gammaridae** (19).

Isopoda (2).

Notes: The Ampithoidae are most probably the same species as in **1124**. Two individuals of the genus *Maera* had asymmetrical second gnathopods. One individual of the genus *Elasmopus* was preserved in an extra tube because it might be a different species.

**1217** Marine habitat

Date: 4. VI. 1936

Location: **MARGARITA**

Laguna [de las Maritas] N. of Punta Mosquito (*Rhizophora*, mud; tidal & lower zone).

[Muddy pool between sand bar and growth of *Rhizophora*; 0-1 m.]

Samples: **Talitridae:** ***Talorchestia*** (± 200).

**1409** Marine habitat

Date: 1. IX. 1963

Location: **FLORIDA**

Virginia Key, Marine Laboratory piling.

[Concrete and wooden poles in muddy water with tidal flow, largely covered by *Balamus* and *Chthamalus*, sponges hydroids, *Didemnum* + other ascidians; 0-2 m.]

Samples: **Melitidae:** ***Elasmopus*** (?), ***Melita*** (?), ***Maera*** (?); **Podoceridae** (?); **Stenothoidae:** ***Stenothoe*** (?); **Corophiidae** (?); **Ischyroceridae:** ***Ericthonius*** (?); **Caprellidae** (?).

Tanaidacea (?).

Polychaeta (?).

Notes: This sample comprises approximately 1000 invertebrate specimens of various taxa. A test sample yielded members of the family Melitidae as most frequent specimens, whereas only one single podocerid could be found. The genus *Stenothoe* seemed to be represented by two different species.

**1462** Marine habitat

Date: 2. I. 1964

Location: **CURAÇAO**

Piscadera Baai, entrance, [water-pipe, (...) iron supports in tidal flow, with dense *Pennaria*, *Didemnum*, *Styela* and *Microcosmus*] iron poles of water supply (0-1 m).

Samples: **Stenothoidae:** ***Stenothoe*** (?); **Podoceridae:** ***Podocerus*** (?); **Ischyroceridae:** ***Ericthonius*** (?); **Ampithoidae** (?).

Isopoda (?); Tanaidacea (?, ?); Copepoda (?).

Hydrozoa: Hydroida (?); Anthozoa (?); Echinodermata: Ophiuroidea (?);

Annelida (?).

Notes: As with station **1409**, this sample also contains approximately 1000 invertebrate specimens of various taxa. A test sample yielded the most frequent groups, listed above. Except for copepods, anthozoans, and ampithoids, all identified specimens, including one tanaidacean with extremely elongated chelipedes, have been preserved in containers apart. Specimens of the genus *Stenothoe* show sexual dimorphism in the gnathopods: adult males have enlarged second gnathopods with enormous dactyls. The single individual of the family Ampithoidae probably belongs to the same species as the ampithoids in sample **1124**.

**1581** Saltpond habitat

Date: 9. IX. 1967

Location: **BONAIRE**

Lac, Awa di Salinja di Cai, [almost isolated part of lagoon (...); 29.5 g Cl'/l.]

_-1 m (soft mud on limestone; *Rhizophora*, *Batophora*).

Samples: **Ampithoidae:** ***Cymadusa*** (± 30); **Corophiidae** (43).

**1590** Marine habitat

Date: 14. VIII. 1967

Location: **BONAIRE**

Lac, inlet S of Boca Fogon, creek, _-1 m (sandy mud; *Rhizophora*, [*Thalassia*,] *Batophora*).

Samples: **Melitidae:** ***Melita*** (73), ***Maera*** (1); **Aoridae:** ***Microdeutopus*** (± 30), ***Lembos*** (4); **Ampithoidae** (32); **Hyalidae** (32).

Isopoda: Anthuridea (1); Copepoda (1).

Polychaeta (1, 1); Nematoda.

Notes: The ampithoids of station **1590** and **1591** apparently belong to the same species, likewise as do the aorids of stations **1590** and **1590 A**. Both identified aorid samples contain each one dissected individual.

**1590 A** Marine habitat

Date: 14.VIII.1967

Location: **BONAIRE**

Lac, inlet S of Boca Fogon, creek, $^1/_2$-1 m (sandy mud; some *Thalassia*).

Samples: **Isaeidae (5); Melitidae: Elasmopus (1); Aoridae: Microdeutopus (1).** Anomura (1)

Notes: In the aorid specimen, both antennae are missing.

**1591** Marine habitat

Date: 18.VIII.1967

Location: **BONAIRE**

Lac, Punta di Rancho, 500 m E of Boca Pedro, creek, 0-$^1/_2$ m (sand on limestone; *Thalassia, Halimeda*).

Samples: **Amphithoidae (7, 2); Melitidae: *Maera* (5), *Elasmopus* (1); Gammaridae: *Psamogammarus* (1); Amphipoda (4, 2).**

Isopoda (12); Tanaidacea (1).

Notes: The two ampithoids from the same species, both with missing antennae, have been dissected. Two amphipod species could not be identified because they were missing important body parts: both antennae in four individuals and the third uropods in two individuals. A single, blind specimen (male) with missing third uropods perfectly matched the morphologic diagnosis of the genus *Psammogammarus.*

First antenna twice as long as second antenna, accessory flagellum with 2 articles; mandible with 3-articulated, rectilinear palp; maxillipede with falciform dactyl; first and second gnathopods subchelate, conspicuous second gnathopod much bigger than first gnathopod; biramous pleopods; telson long and deeply cleft.

The specimens of the genus *Maera* belong to the same species as those in station **1124.**

**1676**(024) Saltpond habitat

Date: 6.V.1973

Location: **JAMAICA**

Label 1: P. Wagenaar Hummelinck. Jamaica. Saltpan [E] of Yallahs. Veld no. **024.** def nr. **1676.**

[Near road. (...) Rocky seapage with some mud. 14.6 g Cl'/l.]

Label 2: **024** Jamaica, flood gate of The Flashes, [near] Great Saltpond, 8. V. 1973. [30 m from 024; (...) crowded with phanerograms.]

Samples **Melitidae (1): *Elasmopus*** (70); **Ischyroceridae: *Ericthonius*** (58); **Colomastigidae: *Colomastix*** (8); **Corophiidae** (1 juv.); **Amphilochidae** (1).

Isopoda (2); Tanaidacea (24); Mysidacea (15); Dendrobranchiata (1).

Polychaeta (6). Bryozoa (3, 1, 1). Platyhelminthes.

Notes: The ischyrocerids, all with missing second antennae, as well as the specimens of the genus *Elasmopus* from station **1676** and **1409** apparently belong to the same species respectively. The isopods, both with missing body parts, might belong to different species. Because they more or less appeared as dissolved tissue, the Platyhelminthes have not been preserved. The single amphilochid lacked third uropods, which leaves its identification with a question mark.

## PART II: SUMMARY OF CLASSIFIED WEST INDIAN AMPHIPOD SPECIES

| | | |
|---|---|---|
| BONAIRE | **Lysianassidae:** | *Lysianassa* (?) *bonairensis* K. Stephensen, 1933 |
| | **Gammaridae:** | *Metaniphargus curasavicus* K. Stephensen, 1933 |
| | | *Quadrivisio lutzi* (Shoemaker, 1933) |
| | **Hyalidae:** | *Parhyale inyacka* (Barnard, 1940) |
| | **Corophiidae:** | *Grandidierella bonnieroides* (K. Stephensen, 1948) (station **1099**) |
| CURAÇAO | **Corophiidae:** | *Grandidierella bonnieroides* (K. Stephensen, 1948) |
| | **Gammaridae:** | *Metaniphargus curasavicus* K. Stephensen, 1933 |
| | **Lysianassidae:** | *Lysianassa hummelincki* K. Stephensen, 1933 |
| | | *L. falcata* K. Stephensen, 1933 |
| ARUBA | **Gammaridae:** | *Quadrivisio lutzi* (Shoemaker, 1933) |
| | | *Metaniphargus curasavicus* K. Stephensen, 1933 |
| MARGARITA | **Talitridae:** | *Talorchestia margaritae* K. Stephensen, 1948 |

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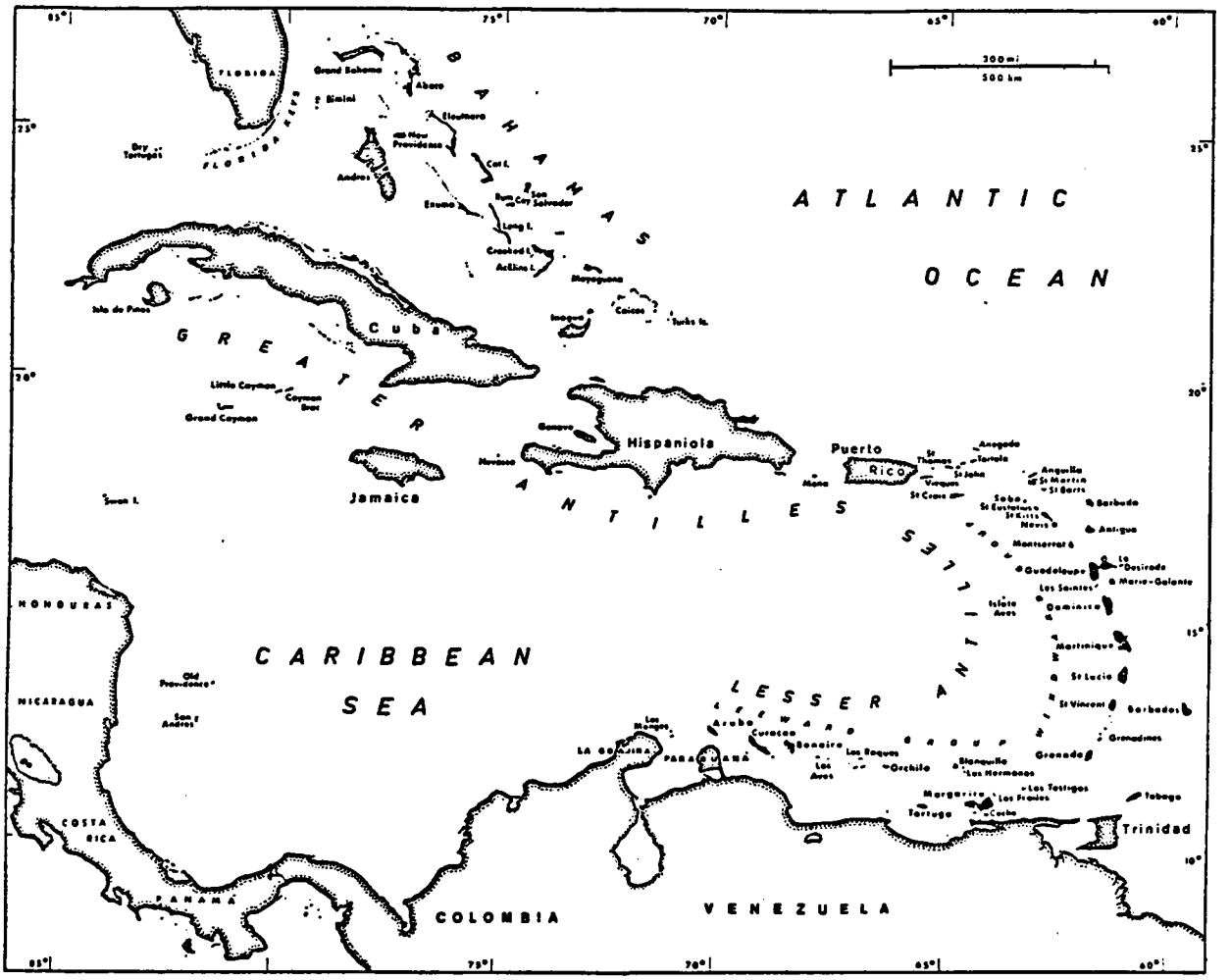
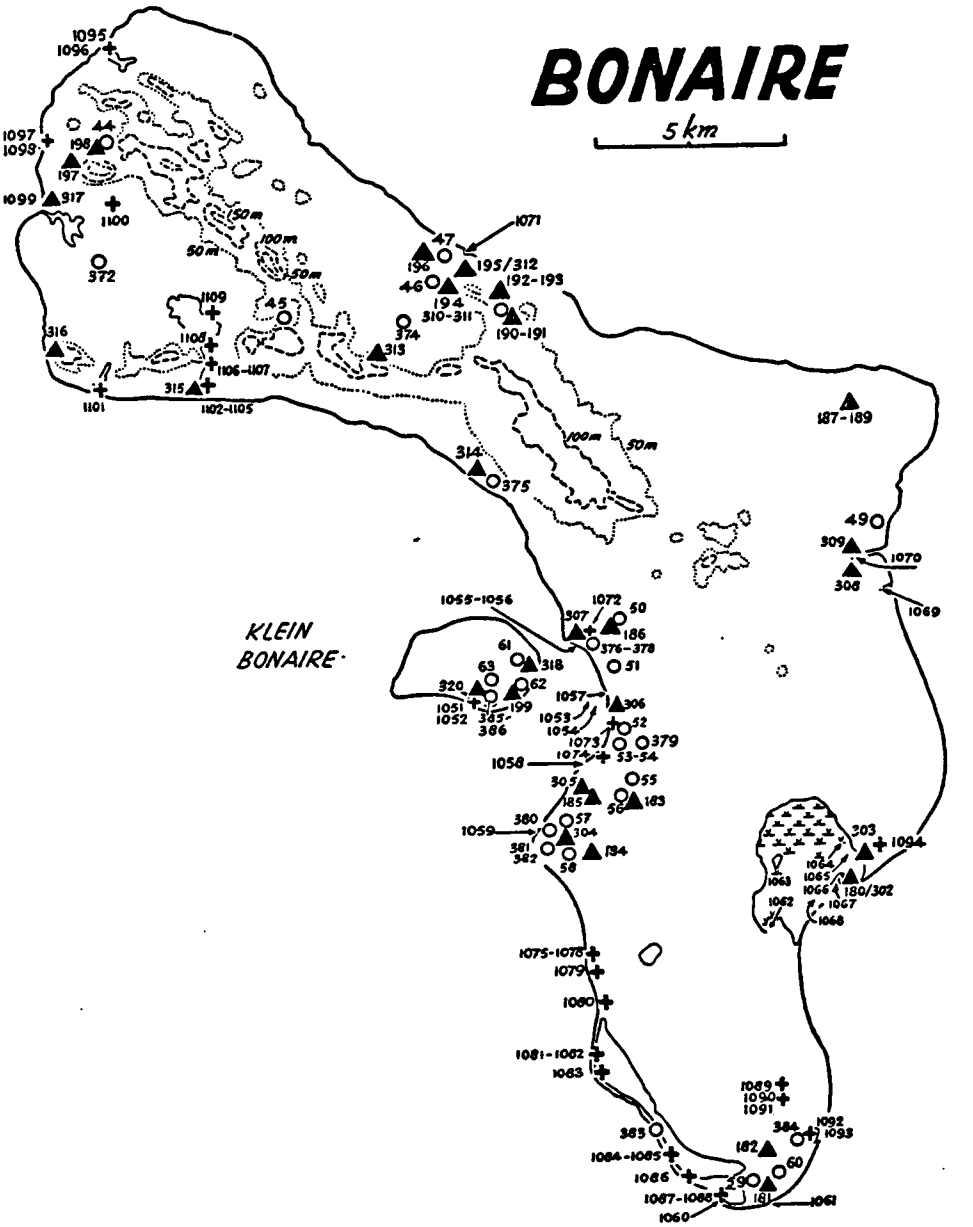
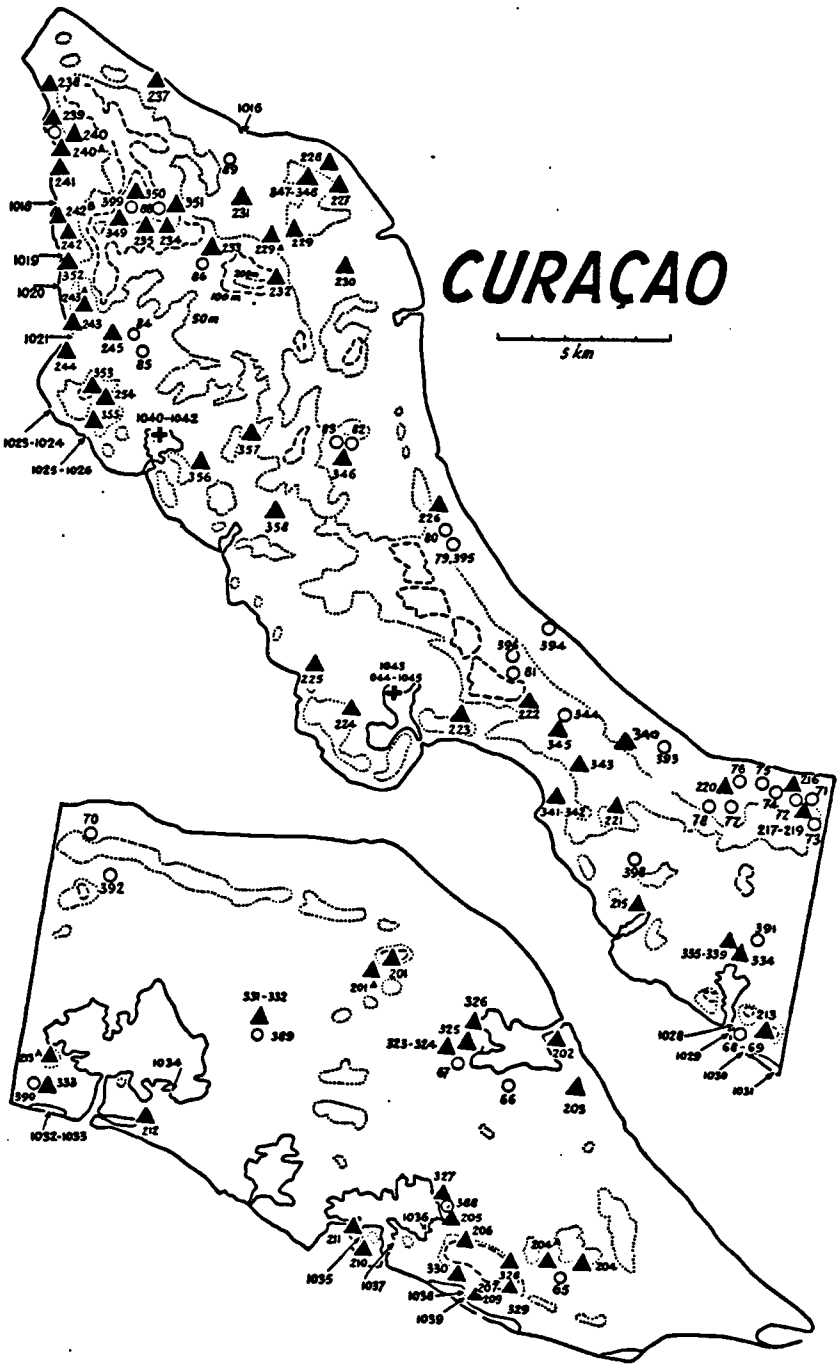



Range map of the Caribbean sample localities (from Wagenaar Hummelinck, 1977).




Map of Bonaire with station numbers. Contour intervals of 50, 100, and 150 m (from Wagenaar Hummelinck, 1953).




Map of Curaçao with station numbers. Contour intervals of 50, 100, and 200 m (from Wagenaar Hummelinck, 1953).