

Cotton Collecting on Caribbean Islands and South Florida

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This report deals with one phase of a multi-phase collecting mission ^{4/} carried out during February and March 1985 in Trinidad and Tobago, Netherlands Antilles (Curaçao, Bonaire, and Aruba), Jamaica, Grand Cayman, Dominican Republic and USA (Florida and Puerto Rico). At all collecting sites boll maturity was optimal for seed collecting.

The accessions collected were classified according to "race", which although not a term accepted internationally as botanical nomenclature, has been used because other G. hirsutum accessions in collections have been classified according to race. Numbers of the accessions collected are in brackets adjacent the country or area where they were collected.

TRINIDAD (A.S. 1065 TO A.S. 1131)

67 samples were collected on this island, of which 63 were G. hirsutum race marie-galante and the remainder were G. barbadense var. brasiliense. The race marie-galante was abundant and occurred even in the wet areas of the island. The phenotypic variability of G. hirsutum appears from observation to be low, with main differences being in plant colour, leaf shape, petal spot intensity, and fibre colour. These differences are likely the result of limited intro-

gressions. Within the 4 G. barbadense accessions collected no variability was observed.

Certain accessions were collected along roadsides and are likely escapes from cultivation. Most of the accessions, however, collected were found principally in "dooryards", and were single plants maintained as ornamentals or for medicinal purposes.

TOBAGO (A.S. 1132 to A.S. 1137)

With the exception of 1 accession having red-purple foliage, the 6 race marie-galante samples collected on this island showed great morphological homogeneity.

NETHERLANDS ANTILLES (CURACAO, BONAIRE AND ARUBA)

Located off the northwest coast of Venezuela, these islands have an extremely dry climate, with a vegetation comprised essentially of cacti and spiny shrubs. Because of the very low rainfall, commercial agriculture is almost non-existent.

(A) CURACAO (A.S. 1138 TO A.S. 1153)

9 accessions of G. hirsutum race marie-galante were collected in dooryards

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and showed little variability. The only significant differences observed were that 2 accessions had naked seeds and the others had fuzzy seeds.

The 7 accessions of G. hirsutum race yucatanense, a more primitive type, were found around Fuik Bay. Plant at the bay were growing in the littoral zone; those found near Nieuwpoort several hundred metres from the sea probably grew from seeds transported inland by strong winds and/or nesting birds.

The distribution of the cotton plants in the general vicinity of Fuik Bay is limited and any increase in the mining activities ongoing in the area or increases in urbanization could further reduce or destroy this population.

(B) BONAIRE (A.S. 1154 to A.S. 1160)

The 4 G. hirsutum race marie-galante accessions collected were very similar to each other. The G. hirsutum race yucatanense accessions were from 4 very small populations. The first population consisted of only a few plants growing on a section of rocky, sandy beach just beyond the road shoulder north of Hato.

The second was located in a more remote and isolated site south of Playa Frans. Numerous young plants were observed growing at this second location. Should these survive, the fate of the population will become less precarious.

(C) ARUBA (A.S. 1161 to A.S. 1166)

All of the samples collected in dooryards were G. hirsutum race marie-galante, and again were very homogeneous. No race yucatanense was found on this island. Aruba, the smallest of the 3 main islands, is the most densely populated, and almost all the western shore of the island is heavily urbanized and much of the natural vegetation destroyed.

JAMAICA - (A.S. 1167 - A.S. 1196)

G. hirsutum race marie-galante was again the most prevalent type of cotton observed. It was frequently found as a single dooryard plant, with occasional populations of varying size seen along the roadsides. Most of the cottons were found

on the southern coast of the island in the more xerophytic areas, especially the southern coast of St. Catherine, Clarendon, and Manchester parishes, all of which are part of Middlesex County.

Only 1 very small population of G. hirsutum race yucatanense was found. It is located along Jackson Bay Trail in southern Clarendon parish, 1 km from the seashore. Another small population, intermediate in type between the races marie-galante and yucatanense was found on the eastern side of Kingston airport.

A small swarm, having plants that the authors could not classify, was found adjacent to the entrance to Port Royal. The plants in this group were very short (not more than 1 m in height), with leathery leaves and clustered bolls.

GRAND CAYMAN (A.S. 1197 to A.S. 1204)

Only G. hirsutum race marie-galante was found on this island. The largest population observed was in the general vicinity of West Point, where the plants were seen in dooryards and in open uncultivated fields. As on other islands, the phenotypic variability for the type was low.

FLORIDA (A.S. 1205 to A.S. 1210)

G. hirsutum race yucatanense was found on Tavernier and Lower Matecumbe Keys from locations given by Cook (1935). These cottons have survived the urbanization and highway construction which obviously destroyed some of the native habitat. Cook also reported finding these cotton types on Key West. However, the present authors were unsuccessful in locating cotton of any type there. This was not entirely surprising, considering that the entire key is almost completely urbanized.

From other information, also provided by Cook, a search was made for cotton on Terra Ceia Island (near Brandenton); this also proved futile.

G. hirsutum race yucatanense cottons were found along the Bayshore Loop Trail, which is part of the Flamingo Visitor Center of the Everglades National Park. These cottons are growing in an area that once was the base camp for cotton eradication crews that operated as late as

Table 1. Distribution of collected samples of Gossypium

Location	Type classification (race)				Total no. samples
	<u>marle-galante</u>	<u>yucatanense</u>	<u>barbadense</u>	Unclassified	
Trinidad	63	-	4	-	67
Tobago	6	-	-	-	6
Curaçao	9	7	-	-	16
Bonaire	4	3	-	-	7
Aruba	6	-	-	-	6
Jamaica	25	1	-	4	30
Grand Cayman	8	-	-	-	8
Florida	-	6	-	-	6
Dominican Republic	-	15	-	-	15
Puerto Rico	11	9	-	3	23
	132	41	4	7	184

1971. The eradication crews were sent into the area by the United States Department of Agriculture in a programme, initiated in 1933, which attempted to control the spread of the pink boll worm (Pectinophora gossypiella).

The large population of cotton plants seen growing in this area are likely descendants of seed and/or plant refuse that was brought to the camp site but never destroyed and became established when the camp site was abandoned. When hurricanes strike this area, silt is swept up from the bottom of Florida Bay and deposited along this coastal strip. Thus, these race yucatanense cottons could provide a higher degree of salt tolerance than is commonly found in many wild cottons. Race yucatanense type cotton was also found in the city of Marco, on Marco Island. The small colony is located on some undeveloped lots near the downtown area, about 1 km from the seashore which may indicate that these types previously covered a large area that is now completely urbanized. This type of cotton may also still be found on some of the many off-shore islands in the general area, especially the region known as "Ten Thousand Islands". However, due to time constraints, no exploration of this myriad of small islands was made.

DOMINICAN REPUBLIC (A.S. 1211 to A.S. 1225)

In the Dominican Republic collecting was carried out in only a very limited area, namely the areas bordering the old and new highways (Carretera Sanchez) between Azua and Barahona. A collecting mission was undertaken in this country in 1980 and, in an electrophoretic survey of this material carried out by Bourdon (1984), samples from this area showed a surprising degree of enzymatic variability.

This population, which is of the race yucatanense, exhibits some unusual characteristics, such as yellow petals, 3-locule bolls, and is found in an extremely arid habitat. The population was also found a relatively long distance (10-15 km) from the sea. Thus, it was considered desirable to collect again in the area and obtain additional material for further and more complete studies of this variability. An additional note on this population is that water must play an important role in seed dispersal, since many of the plants were found growing in the middle of dry rivers.

PUERTO RICO (A.S. 1226 to A.S. 1248)

A great many cotton plants, in both large and small swarms, were observed,

especially around the city of Ponce. Large populations were seen in fields that are no longer actively cultivated. These are obviously plants from previous commercial cultivation. Race marie-galante types were collected from both roadsides and in dooryards. 2 populations of the race yucatanense (local

name: algodón brujo) were located. The first was found on the northwest area of Salinas de Guanica, and is a very large population established on the sand dunes adjacent the sea. It is a main constituent of the vegetation of the area. The second population, smaller and less extensive, was found at Cabo Rojo.

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RESUME

Un total de 184 échantillons de coton ont été recueillis à Trinité et-Tobago, aux Antilles hollandaises (Curaçao, Bonaire et Aruba), à la Jamaïque, à Grand Cayman, en République dominicaine et aux Etats-Unis d'Amérique (Floride et Porto Rico). Cette mission faisait partie d'un ensemble de missions en plusieurs étapes portant sur la Meso-Amérique et l'Amérique du Sud.

RESUMEN

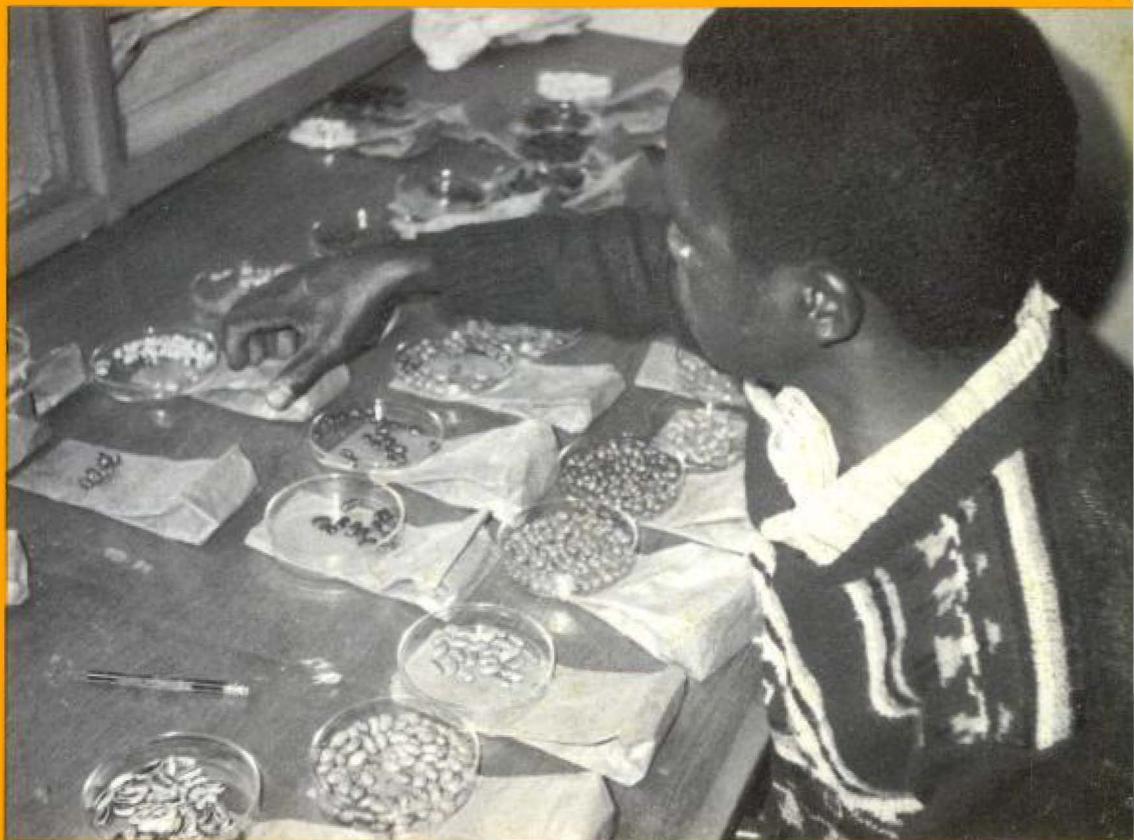
En Trinidad y Tobago, las Antillas Holandesas (Curaçao, Bonaire y Aruba), Jamaica, Gran Caimán, la República Dominicana y los Estados Unidos (Florida y Puerto Rico) se recogió un total de 184 muestras de algodón. La misión formaba parte de una más amplia de varias fases en América Central y del Sur.

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