



# XVI Pan American Sanitary Conference

## XIV Regional Committee Meeting



Minneapolis, Minnesota, U.S.A.  
August-September 1962

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CSP16/12 (Eng.)  
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ORIGINAL: ENGLISH

### REPORT ON THE STATUS OF AËDES AEGYPTI ERADICATION IN THE AMERICAS

By resolution of the Directing Council at its first meeting (Buenos Aires, 1947) the Pan American Sanitary Bureau was entrusted with the promotion and coordination of the Aëdes aegypti eradication campaign in the Americas. In order to comply with this mandate, the PASB has been making every possible effort, within its budgetary limitations, to cooperate with the countries in carrying out the program whose objective is the elimination of this vector from the Western Hemisphere.

During the fifteen years that have elapsed since the resolution was adopted by the Directing Council, many difficulties have arisen and have been solved, to such an extent that the results achieved can be considered very satisfactory.

The Governing Bodies of the Organization have declared A. aegypti eradicated from Bolivia, Brazil, British Honduras, the Canal Zone, Chile, Costa Rica, Ecuador, El Salvador, French Guiana, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Peru, and Uruguay.

In Mexico the campaign has reached its final stage, and the special survey to verify eradication is under way. All the countries of Central America are free from the vector.

All of Colombia, with the exception of the city of Cucuta, which was reinfested in 1961, is also free from A. aegypti. In Venezuela the work is progressing well, and in Argentina the campaign will reach its final stage at the end of 1962. In all the other countries and territories of South America, with the exception of Surinam, the vector has been eliminated.

At present, the problem persists in the United States and in certain parts of the Caribbean Area, where for geographic, economic, and administrative reasons, it is difficult, despite the efforts being made, to achieve the necessary coordination for conducting the program in the various territories at more or less the same time in order to prevent reinfestation of the areas already free from the vector.

The Governing Bodies of the Organization have placed repeated emphasis on the need for countries still infested to make every possible effort to eradicate A. aegypti, because it is the only way to prevent the eradication program in the Americas from becoming indefinitely prolonged and to avert the risk of losing everything that has been achieved so far.

At its XIII Meeting (Washington, October, 1961), the Directing Council recommended (Resolution XXXIV) that countries and territories that were still infested and had not then initiated an eradication campaign, should do so at the earliest possible date, and that those whose campaigns were progressing satisfactorily or were in the final stage, should accelerate their activities, so that they might all complete the campaign within a five-year period and be able to report the eradication of A. aegypti to the XVII Pan American Sanitary Conference in 1966.

The following summary indicates the present status of the program in all the countries and territories other than those that have already eradicated Aedes aegypti.

#### Argentina

The first anti-aegypti work carried out in Argentina was for control purposes. However, in 1953, an eradication campaign was begun, and in September 1954 a letter-agreement for mutual cooperation was signed by the Ministry of Social Welfare and Public Health and the Pan American Sanitary Bureau. The letter-agreement, with some modifications, was extended on three occasions.

To begin with, administrative difficulties slowed down the progress of the campaign, but nevertheless the work went on and the policies and guide lines laid down in the plan of operations approved in January 1955 were followed.

By August 1961, 796,093 km<sup>2</sup> of the 1,500,000 km<sup>2</sup> presumably infested had already been treated. The results obtained in the work already carried out in the central and southern part show that the original estimate needs to be revised.

For this reason and bearing in mind the geographical and climatic conditions it was considered advisable to examine a further 126,000 km<sup>2</sup>, which included parts of the provinces of Rioja, Cordoba, Santa Fe and the northern part of the province of Buenos Aires. In addition, other areas in the province of San Luis, Mendoza and San Juan were also surveyed.

The results of these investigations showed that the vector was absent, and it appears unnecessary to survey another 500,000 km<sup>2</sup> included in the plan of operations. The definitive delimitation of the area to be surveyed is under consideration.

From the beginning of the campaign to date, 3,635 localities were surveyed, of which 165 were found initially positive. The final verification confirming eradication still remains to be made in only three of these localities -Rosario, Cordoba and Freyre-. It is hoped that this will be completed by the end of next November.

#### Colombia

The campaign in Colombia reached its final phase in 1961, but after two years of negativity, the A. aegypti was again found in September 1961 in Cucuta near the border with Venezuela. The infestation was intense (with an index of 45.2%) and generalized. Steps were taken by the Government, with the assistance of the Organization, to eliminate the mosquito. Up to April 1962, 11,000 houses had been treated, and it is expected that the remaining 9,000 houses will be treated during July. The first post-treatment verification will be made in August and September 1962.

#### Cuba

According to data available, Cuba may be considered to be completely infested with A. aegypti, with the exception of some almost uninhabited coastal areas and the highest mountainous parts of the country.

Eradication activities have been considerably intensified since 1959, when the Government increased the campaign budget, which is at present satisfactory.

The work in the Province of Havana will be finished by 1962 and the campaign will then be extended to the neighboring provinces of Pinar del Rio and Matanzas. The progress achieved in the entire area is satisfactory, but the results obtained in some parts of greater Havana in 1961 were not so good, because of decreased susceptibility of A. aegypti to DDT. This problem has been solved by changing the insecticide.

The eradication of A. aegypti from Cuba is expected to be achieved by the end of 1964, if the work progresses at the same rate and no major problems arise in the future.

#### Dominican Republic

Eradication activities began in 1952, with the cooperation of the Organization, but progress up to the first half of 1962 has been slow owing to administrative reasons, particularly lack of personnel. It is expected that the necessary facilities for intensifying the program will be available in the second half of 1962. The eradication program is being reorganized. Aedes aegypti resistance to DDT and dieldrin has been verified in Dominican Republic.

Haiti

In 1958 the Government requested the interruption of the eradication program for financial reasons. Ecologic conditions in Haiti are very favorable to A. aegypti and, in view of the situation existing when the activities were suspended, infestation in the country must now be very high and extensive.

The emergency public health programs submitted by the Government of Haiti to the Tripartite Commission for the Alliance for Progress include a project for the reactivation of the A. aegypti eradication campaign.

Mexico

The program is in its final stage. The initially-infested areas in the southern and central parts of the country are now considered to be free of A. aegypti. Only small northern areas in the vicinity of the United States border still lack inspection.

The special survey of the entire initially-infested area of the country, which is necessary for the verification of the eradication, is continuing, and is expected to be completed early in 1963. The work is being done with the cooperation of PASB. Exception in the city of Merida, which was found to be infested, the results of the verification have so far been negative.

United States of America

According to the latest data available, A. aegypti infested areas in the country and territories under its administration include the States of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina, Tennessee, part of Texas, Puerto Rico, and the Virgin Islands. No eradication work is being undertaken in the U.S.A.

The breeding of A. aegypti is under surveillance and control at international airports and in the dock areas of the principal seaports of the southeastern states.

Venezuela

In 1962 the Aedes aegypti eradication campaign regained the vigor it had lost in the second semester of 1961 because of a reduction in the budget. The initial verification was completed in the states of Aragua, Carabobo and Merida and continued in the states of Zulia, Lara, Trujillo and Yaracuy, in the last two of which it is being completed. Post-treatment verifications in the areas already negative, aimed at proving or consolidating eradication of Aedes aegypti, were carried out in the Federal District and the state of Miranda.

Of the 5,428 localities included in the initial survey 542 were found to be positive. Of these 532 have already been treated, and 22 are still positive. The area surveyed, which includes 16 per cent of the surface area

of the country, has 4,348,154 inhabitants. The area already free of the vector covers 118,595 km<sup>2</sup>.

It is hoped that the eradication of Aedes Aegypti will be completed in Venezuela in 1964.

#### British Guiana

British Guiana have now a situation that can be very dangerous; in its capital, Georgetown, Aedes aegypti has been discovered -possibly diffused in the city in such a way that it will be necessary to institute a complete program to get the territory free of A. aegypti again. Besides this, and in an explosive combination, jungle yellow fever was found to be present in the country, and measures have been taken to vaccinate the persons at risk and prevent the virus from coming to the capital. It was found that two cases -in October and November of 1961- came to the capital and died in the hospital there and that only several months later were the Health Authorities notified. This had alerted the authorities to the existing potential threat.

#### French Guiana

The territory of French Guiana, which was free from A. aegypti, was reinfested in 1960. This reinfestation was eliminated, and during 1961 no positivity was found.

#### Surinam

The A. aegypti infestation in this territory is high and extensive, as shown by the preliminary survey carried out in 1960 by the Government with the collaboration of PASB. The Government decided to start an eradication campaign in 1962, and assigned the sum of 180,000 guilders for the first year. The PASB consultant has visited the territory and prepared a plan of operations for a program to be initiated in the second half of 1962. The Organization will cooperate in providing technical assistance and some supplies and equipment. Surinam is the only territory in South America that so far has not had eradication activities.

#### Jamaica

In this island the eradication activities were not satisfactory and, therefore, the Government decided to suspend the program and reappraise the situation. With personnel from the anti-malaria campaign, a survey was initiated in January, 1961, to determine the extent of the infestation on the island. The survey is revealing widespread positivity all over the island, and possibly only two parishes in the west of the island, Westmoreland and Hanover, are showing negativity. All the other 11 parishes are positive. The city of Montego Bay, previously considered negative, was found positive, and susceptibility tests made in the city showed that A. Aegypti adults and larvae are resistant to dieldrin, DDT and BHC. A complete appraisal of the

susceptibility of the mosquito in the other regions is needed. Steps are being taken by PASB to provide the services of an entomologist who will study this problem not only in Jamaica but also in the other areas of the Caribbean with identical situations.

Only after the results of the survey are known will it be possible to propose a new program.

#### Bahamas

The campaign is considered suspended. The funds and personnel assigned to the campaign were insufficient and the results were unsatisfactory. There is low susceptibility of A. aegypti to DDT.

#### Bermuda

The island is considered to be negative, and only the special verification to confirm eradication is lacking.

#### Barbados

The campaign has been delayed in this island, but recently renewed interest by the local health authorities has led to a great improvement. There is a concentration of infestation mostly in the capital, Bridgetown, with some small foci in other parts of the island. A. aegypti resistance to DDT has been verified.

#### British Virgin Islands

The campaign in this group of islands has been in progress since 1960, with the cooperation of PASB. Some difficulties were encountered in inspecting houses owing to the absence of owners and of transportation to the out-islands. The index in Tortola is about 3 per cent.

#### Trinidad and Tobago

These two islands had been considered negative for some time, but in 1961 the vector was found in one locality in the interior of Trinidad and in the dock area of Port of Spain, probably imported from some other island. Steps were taken to eliminate this reinfestation.

#### St. Kitts - Nevis - Anguilla

The first two islands have already become negative. Work continues in Anguilla to complete eradication, but the local health authorities are not satisfied with the results of the campaign and more intensive action is necessary to make the island negative.

#### St. Vincent - Grenadines

This area, which was considered in 1959 to be negative, was reinfested in 1960, and surveys carried out in 1961 still showed positivity. No treatment was given during 1961.

Antigua and Barbada

These two islands were reinfested in 1961 after being negative and under surveillance since 1958. Steps were taken to eliminate the reinfestation.

Montserrat

The island was reinfested in 1960, but after prompt action it is again negative.

St. Lucia

This island was reinfested in 1960 after being free of A. aegypti for a long time. Reinfestation was eliminated early in 1960, but the island became positive again in 1961.

Grenada - Carriacou

In this group, Grenada has been negative for a long time but Carriacou and Petel Martinique continue to be positive. Tests carried out in Carriacou indicate that A. aegypti is resistant to DDT and to dieldrin and has low susceptibility to BHC.

Martinique

There is no specific campaign against A. aegypti in Martinique. The local authorities are carrying out a campaign against insects in general, but the results against A. aegypti are poor. PASB is not cooperating in this program.

Guadeloupe

Very little progress has been made since the campaign was started in 1956. Only the capital and the neighbouring communities were covered and negativity was never reached. Resistance of A. aegypti to DDT was observed in Basse Ferre, the capital.

Netherland Antilles

The situation in this group is in general satisfactory. Aruba, Bonaire and Saba are already negative and only lack special verification to confirm eradication. St. Eustatius was reinfested in 1961. Some work was carried out, and the results of the first inspections were negative. Curaçao, which was reported negative, was found to have a pocket of infestation. Residual spraying of the area was carried out in order to eliminate A. aegypti.

The following table shows the data for the programs in each country and territory, and the map gives a global view of the results obtained and the work still remaining to be done in order to eradicate A. aegypti in the Americas.

Enclosures: a) report on Aedes aegypti eradication campaign for April 1962.  
b) map - Aedes aegypti erradication campaign - April 1962.

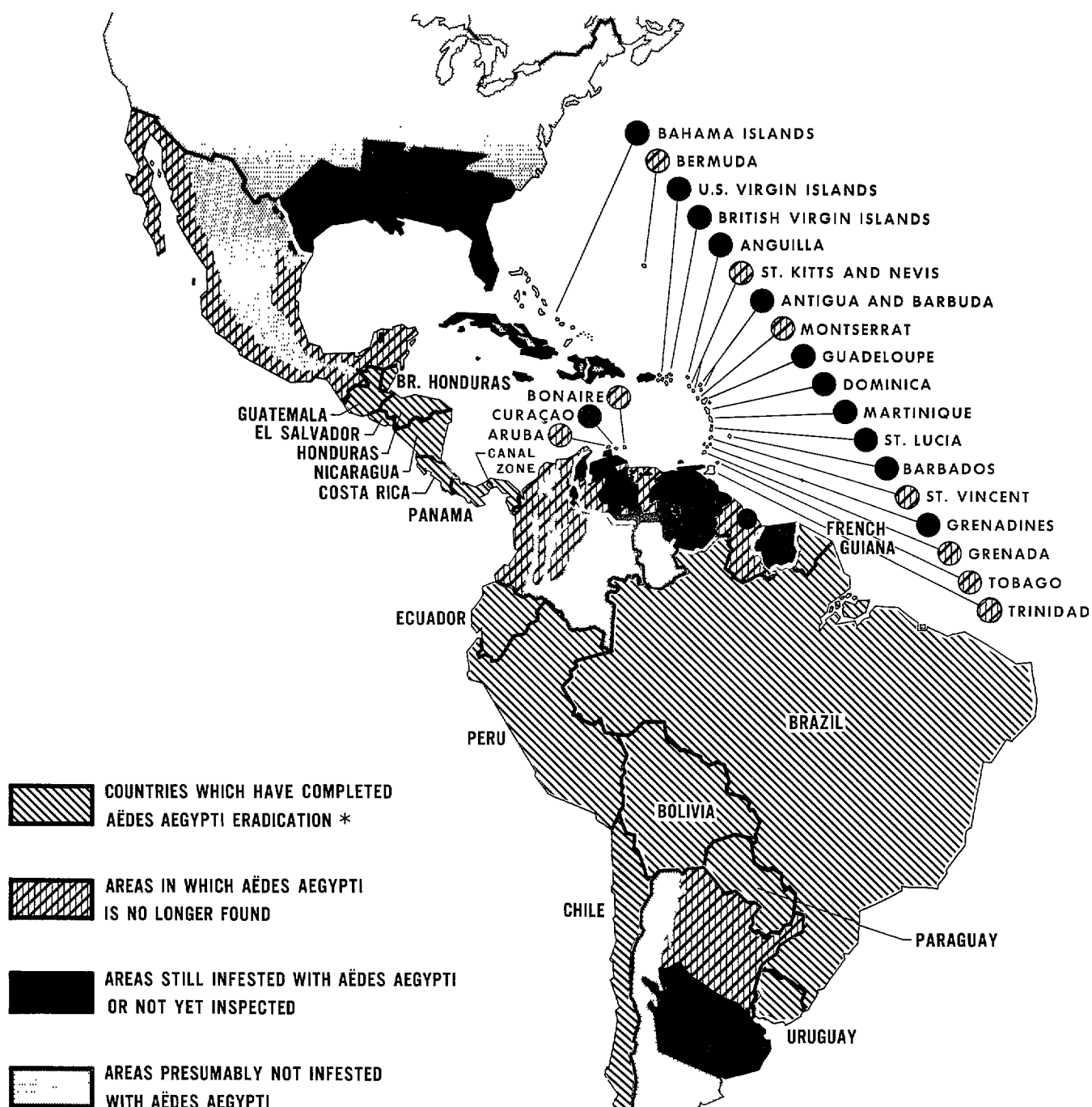
REPORT FOR APRIL 1962 ON THE Aedes Aegypti ERADICATION CAMPAIGN  
IN THE AMERICAS, FROM ITS BEGINNING

Country	Date started	Latest Report available	Area assumed initially infested (Km <sup>2</sup> )		Localities inspected					Present stage
			Total	Inspected (%)	Number	Initially positive				
						Total	Treated	Verified number	Still positive	
Argentina	VI.53	IV.62	1,500,000	66.1	3,631	165	165	165	-	A
Bolivia	VI.32	III.62	100,000	100.0	282	65	65	65	-	E
Brazil	I.31	XII.61	5,358,822	100.0	28,576	36,119	36,119	36,119	-	E
Chile	VI.45	IV.61	104,373	100.0	301	48	48	48	-	E
Colombia	XI.50	IV.62	280,000	100.0	3,801	354	354	354	1	R
Costa Rica	IV.49	III.62	20,000	100.0	1,342	104	104	104	-	E
Cuba	III.54	IV.62	100,000	11.8	390	285	285	254	105	A
Dominican Republic	X.52	IV.62	42,020	80.4	1,420	351	351	326	23	A
Ecuador	VI.46	XII.61	69,454	100.0	2,824	337	337	337	-	E
El Salvador	IV.49	III.62	18,675	100.0	909	190	190	190	-	E
Guatemala	I.49	III.62	36,423	100.0	2,485	138	138	138	-	E
Haiti	X.53	IX.58	27,750	49.4	2,379	605	602	435	27	I
Honduras	IX.49	III.62	69,929	100.0	600	53	53	53	-	E
Mexico	I.51	IV.62	1,000,000	98.0	4,235	600	600	596	1	A
Nicaragua	I.50	VI.61	65,263	100.0	3,126	18	18	18	-	E
Panama	II.49	VI.60	56,246	100.0	2,853	44	44	44	-	E
Paraguay	I.48	III.62	200,000	100.0	1,561	98	98	98	-	E
Peru	I.40	XII.61	638,000	100.0	4,320	191	191	191	-	E
United States	-	-	777,000	-	-	-	-	-	-	P
Uruguay	X.48	IX.61	187,000	100.0	1,020	133	133	133	-	E
Venezuela	VI.48	IV.62	600,000	85.0	5,482	545	532	480	22	A
France French Guiana	V.49	IV.60	91,000	100.0	222	55	55	55	-	E
Guadeloupe	I.57	X.61	1,619	4.9	53	38	38	27	20	A
Martinique	XI.53	VI.61	1,000	100.0	34	21	9	9	-	A
Nether - Aruba	III.52	III.62	174	100.0	9	9	9	9	-	N
lands Bonaire	IX.52	III.62	246	100.0	6	6	6	6	-	N
Curaçao	X.51	XII.61	448	100.0	155	155	155	155	h) 6	A
Saba, St. Eust., St. Martin	VII.58	XII.61	60	100.0	34	30	30	30	15	A
Surinam	-	XII.60	48,000	...	231	74	-	-	-	P
United Antigua	VIII.54	IV.62	283	100.0	50	47	47	47	1	A
Kingdom Bahamas	VI.54	III.62	11,396	1.3	13	11	11	11	10	A
Barbados	III.54	IV.62	171	100.0	99	97	97	97	55	A
Bermuda	I.51	XII.51	53	100.0	59	9	9	9	-	N
British Guiana	III.46	IV.62	4,662	100.0	93	21	21	21	1	A
British Honduras	X.50	IV.61	22,965	100.0	84	2	2	2	-	E
Cayman-Turks-Caicos	-	-	689	-	-	-	-	-	-	P
Dominica	II.51	X.56	789	90.0	136	66	66	66	16	I
Granada	XI.52	VII.59	311	100.0	8	8	8	8	-	N
Grenadines	XI.52	IX.61	65	100.0	7	5	5	5	2	A
Jamaica	II.50	XI.61	11,424	77.3	82	61	61	42	22	A
Montserrat	V.56	IV.62	83	100.0	33	16	16	16	-	N
St. Kitts-Nevis-Anguilla	V.50	XII.61	396	100.0	62	33	33	33	18	A
Saint Lucia	V.53	VIII.61	259	100.0	50	50	50	50	3	A
Saint Vincent	III.53	IX.61	332	100.0	8	8	8	8	-	N
Trinidad and Tobago	I.51	XII.61	3,108	100.0	128	122	122	122	-	N
Virgin Islands	III.60	IV.62	174	74.6	23	23	23	23	11	A
United Canal Zone	1948	IX.60	1,432	100.0	21	2	2	2	-	E
States Puerto Rico	V.50	III.61	8,896	61.8	481	248	248	248	116	A
Virgin Islands	-	-	124	-	-	-	-	-	-	P

P = Preparatory; A = Active; N = Negative for A. aegypti; E = A. aegypti eradicated;  
I = Interrupted programs; - = Zero or no activity; ... = Data not available; R = Reinfested; h = Houses



# STATUS OF THE AËDES AEGYPTI ERADICATION CAMPAIGN APRIL 1962



\* ERADICATION CARRIED OUT ACCORDING TO THE STANDARDS ESTABLISHED BY THE PAN AMERICAN HEALTH ORGANIZATION

Pan American Health Organization

World Health Organization



# **XVI Pan American Sanitary Conference**

## **XIV Regional Committee Meeting**



*Minneapolis, Minnesota, U.S.A.  
August-September 1962*

ESP16/12 (Eng.), Addendum 1

15 August 1962

ORIGINAL: ENGLISH

REPORT AND MAP ON THE STATUS  
OF THE *AËDES AEGYPTI* ERADICATION CAMPAIGN  
IN THE AMERICAS AS OF JUNE 1962

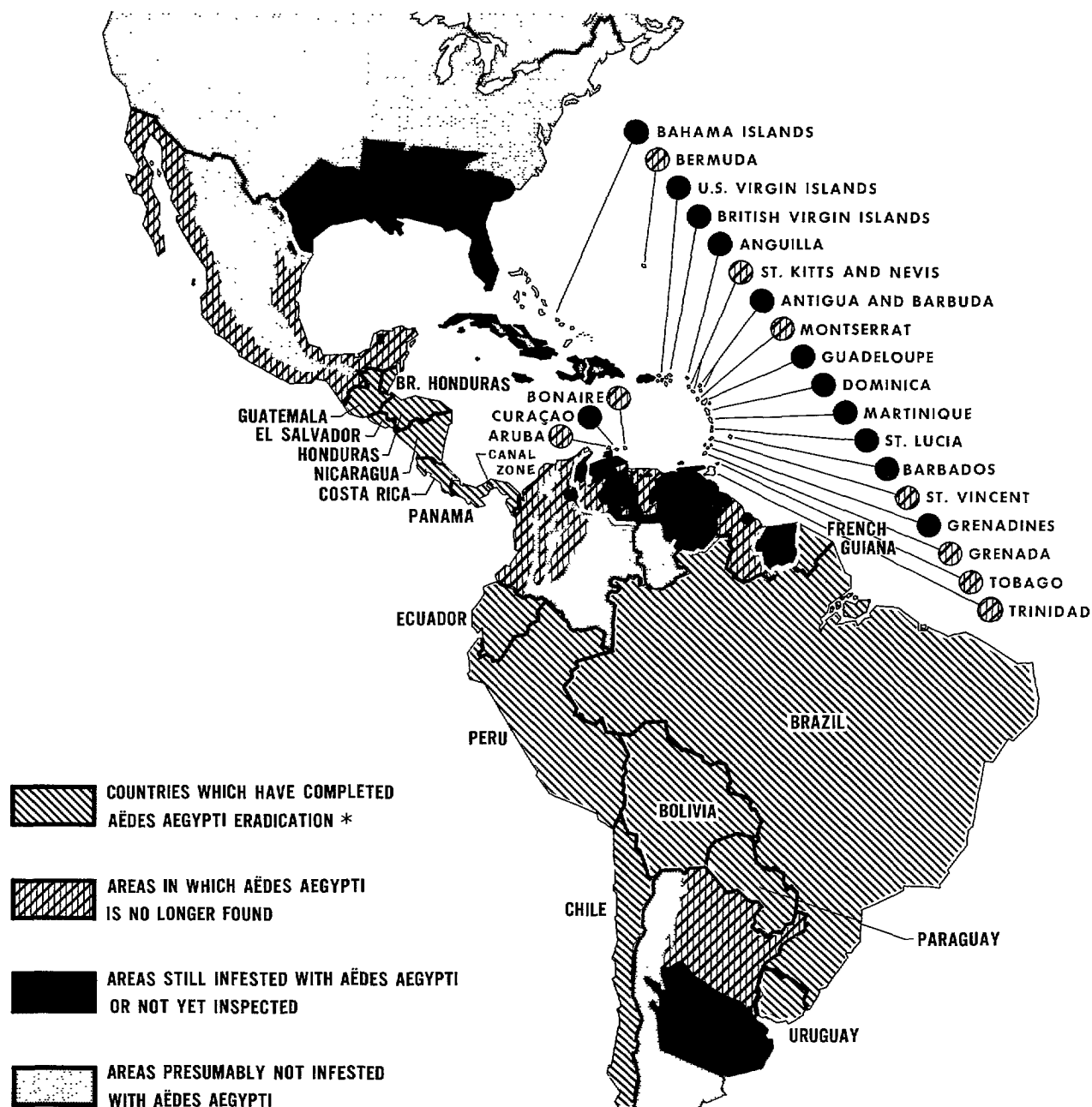
REPORT FOR J U N E 1962 ON THE AEDES AEGYPTI ERADICATION CAMPAIGN  
IN THE AMERICAS, FROM ITS BEGINNING

Country	Date start- ed	Latest report avail- able	Area assumed		Localities inspected					Present status
			initially infested (Km <sup>2</sup> )		Number	Initially positive				
			Total	In- spect- ed (%)		Total	Treated	Verified		
								Number	Still posi- tive	
Argentina	VI.53	VI.62	1,500,000	66.7	3,671	165	165	165	-	NA
Bolivia	VI.32	VI.62	100,000	100.0	282	65	65	65	-	E
Brazil	I.31	III.62	5,358,822	100.0	268,576	36,119	36,119	36,119	-	EV
Chile	VI.45	VI.62	104,373	100.0	301	48	48	48	-	EV
Colombia	XI.50	VI.62	280,000	100.0	3,801	354	354	354	1	PA
Costa Rica	IV.49	VI.62	20,000	100.0	1,342	104	104	104	-	E
Cuba	III.54	VI.62	100,000	15.7	447	323	314	270	107	PA
Dominican Republic	X.52	VI.62	42,020	80.4	1,420	351	351	319	15	PA
Ecuador	VI.46	VI.62	69,454	100.0	2,824	337	337	337	-	EV
El Salvador	IV.49	VI.62	18,675	100.0	909	190	190	190	-	EV
Guatemala	I.49	VI.62	36,423	100.0	2,485	138	138	138	-	EV
Haiti	X.53	IX.58	27,750	49.4	2,379	605	602	435	27	P
Honduras	IX.49	VI.62	69,929	100.0	600	53	53	53	-	EV
Mexico	I.51	VI.62	1,000,000	100.0	4,235	600	600	600	-	NA
Nicaragua	I.50	VI.61	65,263	100.0	3,126	18	18	18	-	E
Panama	II.49	VI.60	56,246	100.0	2,853	44	44	44	-	E
Paraguay	I.48	VI.62	200,000	100.0	1,561	98	98	98	-	EV
Peru	I.40	VI.62	638,000	100.0	4,320	191	191	191	-	EV
United States	-	-	777,000	-	-	-	-	-	-	P
Uruguay	X.48	VI.62	187,000	100.0	1,020	133	133	133	-	EV
Venezuela	VI.48	VI.62	600,000	85.0	5,620	557	547	482	22	PA
France										
French Guiana	V.49	IV.60	91,000	100.0	222	55	55	55	-	E
Guadeloupe	I.57	X.61	1,619	4.9	53	38	38	27	20	P
Martinique	XI.53	III.62	1,000	100.0	34	21	19	19	2	PA
Netherlands										
Aruba	III.52	VI.62	174	100.0	9	9	9	9	-	NA
Bonaire	IX.52	III.62	246	100.0	6	6	6	6	-	NA
Curaçao	X.51	VI.62	448	100.0	r) 5	r) 5	r) 5	r) 5	r) 2	PA
Saba, St. Eustatius, St. Maarten	VII.58	VI.62	60	100.0	34	30	30	30	15	PA
Surinam	-	XII.60	48,000	...	231	74	-	-	-	P
United Kingdom										
Antigua	VIII.54	VI.62	283	100.0	50	47	47	47	11	PA
Bahamas	VI.54	VI.62	11,396	1.3	13	11	11	11	9	P
Barbados	III.54	VI.62	171	100.0	99	r) 98	r) 98	r) 98	58	PA
Bermuda	I.51	XII.51	53	100.0	r) 9	9	9	9	-	N
British Guiana	III.46	VI.62	4,662	100.0	93	21	21	21	2	PA
British Honduras	X.50	VI.62	22,965	100.0	84	2	2	2	-	E
Cayman, Turks, and Caicos Isls.	-	-	689	-	-	-	-	-	-	P
Dominica	II.51	X.56	789	90.0	136	66	66	66	16	P
Grenada	XI.52	VII.59	311	100.0	8	8	8	8	-	N
Grenadines	XI.52	VI.62	65	100.0	7	5	5	5	3	PA
Jamaica	II.50	III.62	11,424	100.0	r) 14	r) 12	...	...	...	P
Montserrat	V.56	VI.62	83	100.0	33	16	16	16	-	NA
St. Kitts-Nevis-Anguilla	V.50	XII.61	396	100.0	62	33	33	33	16	PA
Saint Lucia	V.53	XII.61	259	100.0	50	50	50	50	6	PA
Saint Vincent	III.53	VI.62	332	100.0	8	8	8	8	-	NA
Trinidad and Tobago	I.51	VI.62	3,108	100.0	128	122	122	122	-	NA
Virgin Islands	III.60	V.62	174	74.6	23	23	23	23	9	PA
United States										
Canal Zone	1948	IX.60	1,432	100.0	21	2	2	2	-	EV
Puerto Rico	V.50	III.61	8,896	61.8	481	248	248	248	116	P
Virgin Islands	-	-	124	-	-	-	-	-	-	P

P= positive for A. aegypti; N= negative for A. aegypti; A= program in operation;

E= eradication completed; V= with vigilance; - = zero or no activity; ... not available; r= revised

# STATUS OF THE AËDES AEGYPTI ERADICATION CAMPAIGN JUNE 1962



\* ERADICATION CARRIED OUT ACCORDING TO THE STANDARDS ESTABLISHED BY THE PAN AMERICAN HEALTH ORGANIZATION