

# Public Health Reports

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VOL. XII.

WASHINGTON, D. C., MAY 21, 1897.

No. 21.

## UNITED STATES.

[Reports to the Supervising Surgeon-General United States Marine-Hospital Service.]

*The bubonic plague bacillus as studied at the Pasteur Institute.*

[Continued.]

PARIS, *May 2, 1897.*

SIR: A short time ago I had the honor to submit for your consideration certain observations in regard to the bubonic plague, or pest, being the result of my studies and investigations at the Institute Pasteur. In continuation of the same subject I would beg to submit the following:

In the former report I made mention of toxines prepared by the simple filtration through a Pasteur-Chamberland filter of a bouillon culture of the bacillus of pest, the liquid being thus deprived of its active microbial growth, and the product causing the death of animals, when injected subcutaneously, in a period of time varying according to the virulence of the culture, the length of time which was allowed for the growth, the size and weight of the animals, and certain other conditions, the nature of which is not as yet altogether understood. Since that time I have been conducting experiments with a toxine of pest, but one of an entirely different nature. If to the liquid mentioned before there be added ammonium sulphate, there is precipitated a varying amount of an amorphous, yellowish-brown powder, which when dried is soluble in cold water, forming a tolerably clear solution, and which when injected in doses of 0.0025–0.005 gram into a white mouse of from 18 to 25 grams weight causes the death of the animal in from twelve to twenty-four hours with all the symptoms of a profound toxæmia. After death there is found an extensive œdema around the site of injection, the peritoneal cavity contains a serous exudate, the spleen is enlarged, and other quite characteristic appearances are presented. The substance is, therefore, a true toxine, and one powerful and rapidly fatal. Heated to 56° C. its toxicity is much diminished; heated to 85° C. for an hour the toxic property is altogether destroyed, though the precise point between these temperatures at which the toxic properties are lost is still a matter of experiment, for me, at least.

Nor is its simple toxicity the only interesting feature about this potent substance. Injected in the above-named doses into animals which are at the same time protected by an injection of the pest antitoxine of proved potency, the death of the animal is averted, sometimes with a varying degree of illness, sometimes without the slightest manifestation of discomfort. Apart from the interest attaching to this experiment as a demonstration of the efficiency of the antitoxine as a remedial agent, it establishes the important point that the pest antitoxine is an antitoxine in the true sense of the word, and is not an alexine, or an agent exerting its power by direct action on the microbe itself.

Nor does interest in the substance cease here, for it has been demonstrated by actual experiment that larger animals, especially horses, treated by repeated increasing doses of this precipitated substance, in time acquire an immunity against its action, and that when this is the case the blood serum of the said animal is found to yield an antitoxine of remarkably high remedial power. The word remedial is emphasized for the reason that animals treated by the injection of cultures of the pest bacillus in time acquire a certain immunity, but that their serum possesses powers more of an immunizing than of a remedial nature. These points are interesting from a practical as well as a scientific standpoint, for the reason that it opens up the possibility of preparing pest antitoxine without the necessity of injecting animals with the pest culture itself, a point I need not point out as one of great desirability, for if an animal being treated with pest culture dies, as will sometimes happen, that animal dies of pest pure and simple, and there is a certain chance of the spread of the disease, but if being treated with toxines, and death should unfortunately ensue, the sole cause of death is a poisoning by a chemical agent, and there is no attendant danger.

A point in the use of this agent for the preparation of antitoxines is that its solution must be freshly prepared, as it seems to be changed by oxidation when the solution is kept from day to day. In this way were explained some exceedingly perplexing results which I reached as the finale of quite a train of experiments; the lesson thus practically learned being worth the time apparently lost.

The difference in the potency of the antitoxines prepared by the two methods given above is easily explained, but as the explanation would require an extensive excursion into the whole philosophy of the formation of antitoxines, it will not be given here.

I would again beg to emphasize a point of which I made brief mention in my last letter, viz, that not all horses lend themselves alike to the formation of antitoxine, indeed some are perfectly useless for the purpose. I am informed that with some horses it is quite possible to prepare in three months an antitoxic serum of standard strength, that is to say, one the injection of one-twentieth cubic centimeter of which will preserve a mouse of 20 grams in weight against a lethal dose of pure pest culture. Others, after six months or more of preparation, will only yield a serum which is either not at all protective, or protective only in doses of much increased size, and the standard of potency which has been adopted at the Pasteur Institute is that as above given.

There are some other features of interest about the antitoxic serum which I would like to briefly allude to here. I have mentioned before a property which seemed to be possessed in varying degree by the antitoxine from different animals of producing a coagulation and precipitation when added to a turbid emulsion of pest culture in sterile bouillon or water. The same thing may be observed under the microscope when to a hanging drop of the antitoxine there is added a minute drop of the

turbid emulsion of pest culture. There is at once seen an agglutination of the bacilli. The proportions in which the reaction will be produced can not at this time be definitely stated by me. The reaction was distinctly marked when the dilutions of the antitoxine were respectively one-twentieth and one-fiftieth. It was still noticeable when the dilution reached 1-100, but the matter is still under investigation. Further, two drops of the heart blood of a mouse just dead of the pest were added to 2 cubic centimeters of water, and the reaction was distinctly visible, though no further test was made at the time. This, however, establishes the value of the procedure as a possible diagnostic test, though, as has before been said, the diagnosis of plague is usually all too easily made by more ordinary methods. The organism of pest is a perfectly nonmotile one, so that the reaction does not have the beauty of the Wyatt Johnson modification of the Widal test for typhoid, still it is well marked and interesting.

I hope that it will be distinctly borne in mind in what I have here and before described, that my work is in no way original. It would be a gross injustice to my instructor, Dr. Roux, to allow it to be supposed for a moment that such was the case. I am simply following with all possible attention the course which he lays down for me from day to day, and my work is only leading up to results which are evidently already well known to him, so that if any credit there be it is his and not mine. I hope to make further report as the work progresses.

Very respectfully,

H. D. GEDDINGS,

*Passed Assistant Surgeon, U. S. M. H. S.*

*Smallpox in Memphis, Tenn.*

MEMPHIS, TENN., May 10, 1897.

SIR: I have the honor to report as follows concerning the occurrence of additional cases of smallpox in Memphis:

On May 8 a white patient in St. Joseph's Hospital was found to be suffering from smallpox, and on yesterday, the 9th instant, 2 cases were found among colored railroad employees. All these cases were removed to the county pesthouse.

Very respectfully,

G. B. YOUNG,

*Passed Assistant Surgeon, U. S. M. H. S.*

*Smallpox in the United States as reported to the Supervising Surgeon-General United States Marine-Hospital Service, December 29, 1896, to May 21, 1897.\**

Places.	Date.	Cases.	Deaths.	Remarks.
Alabama:				
Mobile.....	Dec. 28-Jan. 26....	2 .....		
	Mar. 28.....	1 .....		
	Apr. 17.....	1 .....		
Union Springs.....	Mar. 21.....		1	
Connecticut:				
New Haven .....	Feb. 17.....	1 .....		
Florida:				
Pensacola .....	Jan. 19-Feb. 20....	13 .....		
	Feb. 29-Mar. 10....	14 .....		12 varioloid.
	Mar. 27-Apr. 3....	8 .....		Varioloid.
	Apr. 10-May 1....	10 .....		Do.
	May 2-May 8....	3 .....		Do.
Escambia County (not including Pensacola).....	Dec. 2-Jan. 19....	18 .....		

\* For table of smallpox in the United States, etc., May 9, 1896, to December 29, 1896, see PUBLIC HEALTH REPORTS, Vol. XII, No. 1.

*Smallpox in the United States as reported to the Supervising Surgeon-General United States Marine-Hospital Service, December 29, 1896, to May 21, 1897—Continued.*

Places.	Date.	Cases.	Deaths.	Remarks.
Illinois:				
Chicago.....	Mar. 25.....			Smallpox reported; brought from Mexico.
	Mar. 27-Apr. 3.....		1	
	Apr. 10-Apr. 17.....	2		
Indiana:				
Greenwood.....	Feb. 12.....	1		
Massachusetts:				
Boston.....	May 1-May 8.....	4		
New Bedford.....	Apr. 10-Apr. 17.....	1		
Michigan:				
Blissfield Township.....	Mar. 27-Apr. 10.....			Smallpox reported. Do.
	Apr. 17-May 1.....			
Missouri:				
St. Louis.....	April 29.....	2		
	May 1-May 8.....	2		
New York:				
Brooklyn.....	Apr. 24-May 15.....	2	1	Do.
New York.....	Mar. 1-Mar. 31.....		2	
	Apr. 17-May 15.....		10	
Pennsylvania:				
Drifton.....	Apr. 6.....	1		
Tennessee:				
Memphis.....	Apr. 1-May 9.....	8		
Washington:				
Tacoma.....	Feb. 6.....	1		
Olympia.....	Mar. 1.....	1		

*Report of immigration at Boston for the week ended May 15, 1897.*

OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,  
*Port of Boston, May 15, 1897.*

*Number of alien immigrants who arrived at this port during the week ended May 15, 1897; also names of vessels and ports from which they arrived.*

Date.	Vessel.	Where from.	No. of immigrants.
May 9	Steamship Yarmouth.....	Yarmouth, Nova Scotia.....	119
May 10	Steamship Halifax.....	Halifax, Nova Scotia.....	61
Do.....	Steamship Scythia.....	Liverpool, England, and Queens- town, Ireland.	496
Do.....	Steamship Belvidere.....	Port Antonio, Jamaica.....	6
May 12	Steamship Cestrian.....	Liverpool, England.....	8
Do.....	Schooner Turban.....	Bermuda.....	2
Do.....	Schooner Ida C. Southard.....	Turks Island, West Indies.....	1
May 13	Steamship Kansas.....	Liverpool, England.....	1
Do.....	Steamship Olivette.....	Halifax, Nova Scotia.....	37
Do.....	Steamship Yarmouth.....	Yarmouth, Nova Scotia.....	103
	Total.....		834

THOMAS F. DELHANTY,  
*U. S. Commissioner of Immigration.*

*Report of immigration at New York for the week ended May 15, 1897.*OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,  
*Port of New York, May 18, 1897.**Number of alien immigrants who arrived at this port during the week ended May 15, 1897;  
also names of vessels and ports from which they arrived.*

Date.	Vessel.	Wherefrom.	No. of immigrants.
May 9	Steamship La Bourgogne .....	Havre .....	351
Do....	Steamship Etruria .....	Liverpool and Queenstown.....	442
Do....	Steamship Alesia .....	Marseilles and Naples.....	221
May 10	Steamship Sorrento.....	Hamburg .....	65
Do....	Steamship Amsterdam.....	Rotterdam and Boulogne .....	176
May 11	Steamship Aller .....	Bremen .....	108
Do....	Steamship Furnessia.....	Glasgow .....	363
Do....	Steamship Friesland.....	Antwerp .....	240
May 12	Steamship Ems.....	Genoa and Naples.....	919
Do....	Steamship Bolivia.....	Naples.....	1,014
May 13	Steamship State of Nebraska .....	Glasgow.....	84
Do....	Steamship Teutonic .....	Liverpool and Queenstown .....	908
May 14	Steamship Saale.....	Bremen .....	279
Do....	Steamship Massillia.....	Naples .....	910
Do....	Steamship Prince Regent Luipold.....	Bremen .....	256
May 15	Steamship Campania.....	Liverpool and Queenstown.....	683
Do....	Steamship Paris.....	Southampton.....	202
	Total.....		7,221

ED. F. MCSWEENEY,  
*Acting Commissioner of Immigration.**Report of immigration at Philadelphia for the week ended May 15, 1897.*OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,  
*Port of Philadelphia, May 15, 1897.**Number of alien immigrants who arrived at this port during the week ended May 15, 1897;  
also names of vessels and ports from which they arrived.*

Date.	Vessel.	Where from.	No. of immigrants.
May 10	Steamship Corean.....	Glasgow .....	1
Do...	Steamship Rhymland .....	Liverpool and Queenstown.....	219
May 11	Steamship Elbruz.....	Cardiff.....	1
May 15	Steamship Switzerland.....	Antwerp.....	145
	Total.....		366

JNO. J. S. RODGERS,  
*U. S. Commissioner of Immigration.*

**QUARANTINE REPORTS.**  
*National quarantine and inspection stations.*

[Vessels named only when detained or given treatment at quarantine.]

Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
Alexandria, Va.	May 16	Sp. bk. Angelita *	Apr. 23	Habana	Brunswick	Disinfected and held	May 3		3
Brunswick, Ga.	May 8	Sp. bk. Progreso *	Apr. 23	do	do	do	May 7		1
		Br. bk. Ben Lawrs *	Apr. 27	Santos	do	Held for disinfection			
		Br. bk. Conductor	May 5	Rio	do	do			
		Sp. bkn. Loret de Mar.	May 8	Santiago de Cuba.	do	do			
Cape Charles, Va.	May 15							No transactions.	4
Cape Fear, N. C.	do								7
Delaware Breakwater, Del.									
Eureka, Cal.	May 5							No transactions.	2
Grays Harbor, Wash.	May 12								4
Gulf, Ship Island, Miss.	May 8	Am. sc. Millie Williams.	May 3	Vera Cruz	Pascagoula, Fla.	Held for disinfection.	May 9		
		Am. sc. Rollin Sanford.	May 8	Coatzacoalcos, Mex.	do	do	May 11		
Newbern, N. C.	do							No transactions.	9
Port Townsend, Wash.	do								30
Reedy Island, Del.	May 15								3
San Diego, Cal.	May 8								14
San Francisco, Cal.	do								8
South Atlantic Quarantine, Blackbeard Island, Ga.	do	Br. s. George T. Hay *	Apr. 25	Rio	Sapelo	Held for disinfection	May 6		
		Sp. bk. Tuys *	Apr. 29	Habana	Brunswick	do			
		Ger. bk. Wodan	May 5	Curacao	do	Held for instructions			
		Am. sc. John H. Buttrick *	May 1	Tampico	Fernandina	Held for disinfection	May 7		
Tortugas, Key West, Fla.	do	Am. sc. Susie M. Plummer.	May 7	Habana	Port Tampa	Disinfected and held		No transactions.	
Washington, N. C.	May 15								

\* Previously reported.

QUARANTINE REPORTS—Continued.  
State and municipal quarantine stations.

[Vessels named only when detained or given treatment at quarantine.]

Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
Anclote, Fla.	May 15	Amalachiola, Fla.	May 15					No report	26
Boston, Mass.	May 8	Ceder Keys, Fla.	May 8					do	17
Charleston, S. C.	May 15	Am. bk. Nellie M. Slade.	May 9	Puerto Barrios	Charleston	Held for disinfection.	May 10		2
Charlotte Harbor.	May 8	Br. ss. John Morrison	May 7	St. Vincent	Punta Gorda.	Disinfected and held.			2
Elizabeth River, Va.	May 15							No report	15
Galveston, Tex.	May 15							No transactions.	
Georgetown, S. C.	May 15							No report	
Gloverston, Mass.								do	
Key West, Monroe Co., Fla.	May 15								9
Mayport, Fla.	May 8	Br. ship Servia.	May 2	Rio	Mobile.	Held for disinfection.			
Mobile Bay, Ala.	May 8	Am. sc. Fred A. Small.	May 3	Habana	do	do			
		Ital. bk. Angelo.	May 6	Barbados	do	Waiting orders			
New Bedford, Mass.	May 15							No report	7
Newport News, Va.	May 15							No report	1
Portland, R. I.	May 15							No report	1
Portland, Me.	May 15							No report	1
Port Royal, S. C.	May 15							No report	1
Providence, R. I.	do.							No report	1
St. Helena Entrance, S. C.	May 8							No report	1
Sabine Pass, Tex.	May 15	Br. ss. Victoria.	May 14	St. Vincent	Sabine Pass.	Held for disinfection.			4
Savannah, Ga.	May 8	Nor. bk. Sondre.	May 18	Para	Savannah	Held for discharge of ballast			4
	May 15	Aust. bk. Artieri Giovanni.	do.	do.	do	do			22
Tampa Bay, Fla.	May 8	Br. ss. Whitby.	May 1	Rio.	Tampa.	Held for disinfection.	May 7		18
	May 15	Am. sc. J. Manchester Haynes.	May 10	Cienfuegos, Cuba.	do	Disinfected and held.			16
Velasco, Tex.	May 8	Am. sc. James W. Fitch.	do.	do	do	do			7
West Point, Va.	May 8							No report.	

*Reports of States and yearly and monthly reports of cities.*

**CALIFORNIA**—*Los Angeles*.—Month of April, 1897. Estimated population, 100,000. Total deaths from all causes, 104, including diphtheria, 3; enteric fever, 1; whooping cough, 2, and phthisis pulmonalis, 28.

*Oakland*.—Month of April, 1897. Estimated population, 60,000. Total deaths, 49, including phthisis pulmonalis, 4.

*Sacramento*.—Month of April, 1897. Estimated population, 30,000. Total deaths, 31, including phthisis pulmonalis, 3.

*San Francisco City and County*.—Month of April, 1897. Estimated population, 360,000. Total deaths, 478, including diphtheria, 4; enteric fever, 5; measles, 1; scarlet fever, 1; whooping cough, 1, and phthisis pulmonalis, 65.

**COLORADO**—*Denver*.—Month of April, 1897. Estimated population, 160,000. Total number of deaths, 141, including diphtheria 1; enteric fever, 4; measles, 5; whooping cough, 3, and phthisis pulmonalis, 44.

**CONNECTICUT**.—Month of April, 1897. Reports to the State board of health from 165 towns, having an aggregate population of 855,060, show a total of 897 deaths, including diphtheria, 23; enteric fever, 4; measles, 3; scarlet fever, 5; whooping cough, 9, and phthisis pulmonalis, 143.

**ILLINOIS**—*Chicago*.—Month of April, 1897. Estimated population, 1,750,000. Total deaths from all causes, 1,728, including diphtheria, 47; enteric fever, 19; measles, 26; scarlet fever, 13; whooping cough, 25, and phthisis pulmonalis, 188.

**INDIANA**—*Evansville*.—Month of April, 1897. Estimated population, 65,000. Total number of deaths, 66, including diphtheria, 1, and phthisis pulmonalis, 11.

**IOWA**—*Davenport*.—Month of April, 1897. Estimated population, 35,000. Total deaths, 38, including whooping cough, 2, and phthisis pulmonalis, 9.

**MARYLAND**—*Baltimore*.—Month of April, 1897. Estimated population, 506,398—white, 431,054; colored, 75,344. Total deaths, 674—white, 514; colored, 160; including diphtheria, 23; enteric fever, 6; scarlet fever, 6; measles, 5; whooping cough, 2, and phthisis pulmonalis, 29.

**MASSACHUSETTS**—*Brockton*.—Month of March, 1897. Estimated population, 35,853. Total deaths, 51, including diphtheria, 3, and enteric fever, 1.

*Worcester*.—Month of April, 1897. Total number of deaths, 143, including phthisis pulmonalis, 15, and diphtheria, 5.

**MICHIGAN**.—Week ended May 8, 1897. Reports to the State board of health from 50 observers indicate that tonsillitis, diarrhea, and consumption decreased in area of prevalence. Phthisis pulmonalis was reported present in 166 places, measles at 88 places, diphtheria at 22 places, scarlet fever at 17 places, enteric fever at 14 places, whooping cough at 6 places, and smallpox at 1 place, viz: Blissfield Township.



MINNESOTA.—*Minneapolis*.—Month of April, 1897. Estimated population, 192,833. Total number of deaths, 156, including phthisis pulmonalis, 19; enteric fever, 22, and whooping cough, 4.

*St. Paul*.—Month of April, 1897. Estimated population, 215,582. Total deaths, 116, including enteric fever, 2; diphtheria, 2, and phthisis pulmonalis, 19.

MISSOURI—*Kansas City*.—Month of April, 1897. Estimated population, 165,000. Total deaths, 165, including diphtheria, 1; enteric fever, 4; whooping cough, 2, and phthisis pulmonalis, 12.

OHIO—*Cleveland*.—Month of April, 1897. Estimated population, 350,000. Total deaths from all causes, 409, including diphtheria, 5; enteric fever, 9, and whooping cough, 1.

TOLEDO.—Month of April, 1897. Estimated population, 137,780. Total number of deaths, 15, including diphtheria, 1; measles, 2, and scarlet fever, 1, and phthisis pulmonalis, 8.

NEW YORK—*Buffalo*.—Month of April, 1897. Estimated population, 350,000. Total number of deaths, 358, including diphtheria, 17; enteric fever, 3; measles, 3; scarlet fever, 2; whooping cough, 13, and phthisis pulmonalis 39.

TENNESSEE—*Nashville*.—Month of April, 1897. Estimated population, 87,754—white, 54,595; colored, 33,159. Total number of deaths, 114—white, 52; colored, 62, including enteric fever, 2, and phthisis pulmonalis, 24.

MORTALITY TABLE, CITIES OF THE UNITED STATES.

Cities.	Week ended.	Population, U. S. Census of 1890.	Total deaths from all causes.	Deaths from—													
				Phthisis pulmonalis.	Yellow fever.	Smallpox.	Varioloid.	Cholera.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.			
Ashtabula, Ohio.....	May 15.....	8, 338	1	1													
Baltimore, Md.....	do.....	434, 439	140	18													
Boston, Mass.....	do.....	448, 477	268	30													
Brockton, Mass.....	May 1.....	27, 294	6														
Do.....	May 8.....	27, 294	10	1													
Brooklyn, N. Y.....	May 15.....	806, 343	368	48													
Brownsville, Tex.....	May 8.....	6, 134	5	1													
Bucyrus, Ohio.....	do.....	5, 974	2														
Cambridge, Mass.....	May 15.....	70, 028	26	6													
Carlisle, Pa.....	do.....	7, 620	4	1													
Charleston, S. C.....	May 1.....	* 54, 955	† 27	5													
Do.....	May 8.....	54, 955	† 34	6													
Chicago, Ill.....	do.....	1, 099, 850	424	50													
Do.....	May 15.....	1, 099, 850	367	8													
Cincinnati, Ohio.....	May 14.....	296, 908	90	9		1											
Dayton, Ohio.....	May 13.....	61, 220	14	1													
Dedham, Mass.....	May 8.....	7, 123	2														
Denver, Colo.....	May 1.....	106, 713	37	10													
Do.....	May 8.....	106, 713	39	7													
Dunkirk, N. Y.....	do.....	9, 416	2	1													
Everett, Mass.....	May 14.....	11, 068	4														
Fall River, Mass.....	May 15.....	74, 388	42	5													
Fitchburg, Mass.....	May 8.....	22, 037	8														
Gloucester, Mass.....	do.....	24, 631	7														
Grand Rapids, Mich.....	May 15.....	60, 278	19	3													
Green Bay, Wis.....	do.....	9, 069	3														

\* Estimated population, 65,165; white, 28,870; colored, 36,295. † White, 11; colored 16. ‡ White, 7; colored, 27.



Table of temperature and rainfall, week ended May 17, 1897.

[Received from Department of Agriculture, Weather Bureau.]

Locality.	Temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	* Excess.	* Deficiency.	Normal.	Excess.	Deficiency.
<b>Atlantic Coast:</b>						
Eastport, Me.....	47		1	.84	1.06	
Portland, Me.....	53		1	.82	.78	
Northfield, Vt.....	52	4		.70	.60	
Boston, Mass.....	55	5		.84	.26	
Vineyard Haven, Mass.....	56	5		.76	.64	
Nantucket, Mass.....	53	1		.77	.43	
Woods Hole, Mass.....	53	3		.76	.14	
Block Island, R. I.....	51	3		.90	.80	
New Haven, Conn.....	56	3		.84	1.46	
Albany, N. Y.....	58	4		.70	1.80	
New York, N. Y.....	58	4		.70	1.50	
Harrisburg, Pa.....	59	3		1.09	1.91	
Philadelphia, Pa.....	61	5		.70	1.30	
New Brunswick, N. J.....	59	5		.82	2.18	
Atlantic City, N. J.....	57	3		.56		.16
Baltimore, Md.....	63	3		.84	2.26	
Washington, D. C.....	62	3		.91	2.71	
Lynchburg, Va.....	65	1		.91	.79	
Cape Henry, Va.....	64	4		.91	.89	
Norfolk, Va.....	65	3		.98	1.52	
Charlotte, N. C.....	68	0		.88	.92	
Raleigh, N. C.....	67	1		1.22		.32
Kittyhawk, N. C.....	66	2		.79	.61	
Hatteras, N. C.....	65	3		1.05	.35	
Wilmington, N. C.....	69	1		.91	.59	
Columbia, S. C.....	72	0		.89		.39
Charleston, S. C.....	72	0		.89		.29
Augusta, Ga.....	71	1		.77	.13	
Savanna, Ga.....	72	2		.54	.26	
Jacksonville, Fla.....	74	0		.87	.43	
Jupiter, Fla.....	75	1		1.32	.08	
Key West, Fla.....	79		1	.70	1.20	
<b>Gulf States:</b>						
Atlanta, Ga.....	68		2	.77		.47
Tampa, Fla.....	75	1		.62		.42
Pensacola, Fla.....	73	0		.70	.40	
Mobile, Ala.....	73		3	.89	2.31	
Montgomery, Ala.....	73		3	.86		.26
Vicksburg, Miss.....	73		5	1.12		.42
New Orleans, La.....	75		1	1.05		.85
Shreveport, La.....	73			.92	1.90	
Fort Smith, Ark.....	68		2	1.05		.85
Little Rock, Ark.....	69	3		1.33		1.13
Palestine, Tex.....	71		1	1.40	1.70	
Galveston, Tex.....	76		2	.83	.37	
San Antonio, Tex.....	74	0		.73	.77	
Corpus Christi, Tex.....	75	1		.75	1.35	
<b>Ohio Valley and Tennessee:</b>						
Memphis, Tenn.....	70		4	1.01		.41
Nashville, Tenn.....	67		3	.75	.25	
Chattanooga, Tenn.....	67		3	.84	1.76	
Knoxville, Tenn.....	65		3	.85	3.35	
Louisville, Ky.....	65		4	.80	.30	
Indianapolis, Ind.....	62		4	.91	.29	
Cincinnati, Ohio.....	65		3	.77		.47
Columbus, Ohio.....	60		2	.98		.38
Parkersburg, W. Va.....	60	0		.91	.69	
Pittsburg, Pa.....	61		1	.77	.03	
<b>Lake Region:</b>						
Oswego, N. Y.....	52	4		.63	.37	
Rochester, N. Y.....	54	4		.77		.37
Buffalo, N. Y.....	52	4		.77	.13	
Erle, Pa.....	55	1		.87		.37
Cleveland, Ohio.....	55	1		.82		.32
Sandusky, Ohio.....	57	1		.77		.37
Toledo, Ohio.....	57	1		.77		.27
Detroit, Mich.....	56	0		.78	.02	
Lansing, Mich.....	57		1	.67		.27
Port Huron, Mich.....	51	5		.77	.33	
Alpena, Mich.....	47	1		.77	.23	
Sault Ste. Marie, Mich.....	46		2	.49	.11	
Marquette, Mich.....	46	0		.66	.04	
Green Bay, Wis.....	51	5		.88		.58

\* The figures in these columns represent the average daily departure.

Table of temperature and rainfall, week ended May 17, 1897—Continued.

Locality.	Temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	*Excess.	*Defic'ncy	Normal.	Excess.	Deficiency.
<b>Lake Region—Continued.</b>						
Grand Haven, Mich.....	53		3	.77		.67
Milwaukee, Wis.....	51	5		.78		.68
Chicago, Ill.....	54	2		.84		.64
Duluth, Minn.....	47	1		.80		.30
<b>Upper Mississippi Valley:</b>						
St. Paul, Minn.....	56		4	.76		.56
La Crosse, Wis.....	59		5	.72		.52
Dubuque, Iowa.....	59		5	.87	.03	
Davenport, Iowa.....	60		5	.98		.58
Des Moines, Iowa.....	60		4	1.05		.55
Keokuk, Iowa.....	61		3	.91		.71
Springfield, Ill.....	61		3	1.14		.74
Cairo, Ill.....	66		4	.86		.46
St. Louis, Mo.....	64		2	1.01		.81
<b>Missouri Valley:</b>						
Columbia, Mo.....	61		1	1.40		1.20
Springfield, Mo.....	62		2	1.46		1.26
Kansas City, Mo.....	63		3	1.05		.85
Wichita, Kans.....	63		3	.88	.32	
Concordia, Kans.....	61		1	.96		.56
Lincoln, Nebr.....	61		3	1.10		.60
Omaha, Nebr.....	61		5	.97		.47
Sioux City, Iowa.....	58		4	.77		.37
Yankton, S. Dak.....	58		2	.98		.68
Valentine, Nebr.....	54	2		.63		.53
Huron, S. Dak.....	54		2	.66		.56
Pierre, S. Dak.....	55	1		.49		.19
Moorhead, Minn.....	52		2	.56		.16
Bismarck, N. Dak.....	54		2	.56		.56
Williston, N. Dak.....	53		1	.42		.42
<b>Rocky Mountain Region:</b>						
Havre, Mont.....	53	9		.35		.35
Helena, Mont.....	53	9		.33		.33
Miles City, Mont.....	55	5		.49		.49
Rapid City, S. Dak.....	53	1		.78		.48
Spokane, Wash.....	57	9		.29		.19
Wallawalla, Wash.....	61	9		.37		.07
Baker City, Oreg.....	54	8		.42	.08	
Winnemucca, Nev.....	53	9		.21		.01
Salt Lake City, Utah.....	57	5		.42		.32
Lander, Wyo.....	51	5		.66		.66
Cheyenne, Wyo.....	50	2		.55		.45
North Platte, Nebr.....	57		1	.58		.58
Denver, Colo.....	56	2		.70	.20	
Pueblo, Colo.....	58	2		.44		.34
Dodge City, Kans.....	62	0		.71		.61
Oklahoma, Okla.....	67			1.31		.01
Amarillo, Tex.....	64		2	.44	2.36	
Abilene, Tex.....	70	0		.79	1.21	
Santa Fe, N. Mex.....	55	3		.28		.28
El Paso, Tex.....	72	2		.11		.11
Phoenix, Ariz.....	74	4		.06		.06
<b>Pacific Coast:</b>						
Tatoosh Island, Wash.....	51			.99	.99	
Port Angeles, Wash.....	51			.28	.28	
Fort Canby, Wash.....	53	3		.68		.58
Portland, Oreg.....	57	9		.56		.16
Roseburg, Oreg.....	57	7		.42		.22
Eureka, Cal.....	54	0		.70		.70
Redbluff, Cal.....	65	9		.31		.31
Carson City, Nev.....	54	6		.14	.04	
Sacramento, Cal.....	62	4		.22	.08	
San Francisco, Cal.....	56	2		.19	.41	
Fresno, Cal.....	68	6		.07		.07
Los Angeles, Cal.....	62	0		.09	.01	
San Diego, Cal.....	60	2		.07		.07
Yuma, Ariz.....	78	2		.00	.00	

\* The figures in these columns represent the average daily departure.

## FOREIGN.

[Reports received from United States consuls through the Department of State and from other sources.]

*Cholera, yellow fever, and plague as reported to the Supervising Surgeon-General United States Marine-Hospital Service, December 29, 1896, to May 18, 1897.*

## CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
<b>India:</b>				
<b>Bombay</b> .....	Dec. 8-Dec. 15.....		1	
	Dec. 22-Dec. 29.....		1	
	Mar. 23-Mar. 30.....		1	
	Mar. 31-Apr. 13.....		2	
<b>Calcutta</b> .....	Nov. 14-Jan. 30.....		267	
	Jan. 31-Feb. 27.....		311	
	Feb. 28-Mar. 6.....		125	
	Mar. 6-Apr. 3.....		601	
<b>Madras</b> .....	Nov. 21-Nov. 27.....		2	
	Nov. 28-Dec. 4.....		1	
	Dec. 12-Dec. 25.....		6	
	Dec. 26-Jan. 29.....		22	
	Jan. 30-Feb. 26.....		13	
	Feb. 27-Mar. 5.....		2	
	Mar. 6-Mar. 19.....		1	
	Mar. 20-Mar. 26.....		2	
<b>Singapore</b> .....	Nov. 1-Nov. 30.....		12	
	Dec. 1-Dec. 31.....		5	
<b>Ceylon:</b>				
<b>Colombo</b> .....	Nov. 28-Jan. 23.....		114	
	Jan. 23-Jan. 30.....	1	1	
<b>England:</b>				
<b>Plymouth</b> .....	Jan. 9.....		4	On steamship <i>Nubia</i> . No cases in city.
<b>Japan:</b>				
<b>Tokyo</b> .....	Dec. 4-Dec. 29.....	8	7	
	Dec. 30-Jan. 18.....	3	3	
<b>Yokohama</b> .....	Dec. 4-Dec. 29.....	4	3	
	Dec. 30-Jan. 18.....	2	2	

## YELLOW FEVER.

<b>Brazil:</b>				
<b>Para</b> .....	Dec. 12-Jan. 30.....		32	
	Jan. 31-Feb. 27.....		20	
	Feb. 27-Mar. 6.....		9	
	Mar. 13-Mar. 20.....		3	
	Apr. 3-Apr. 10.....		3	
<b>Rio de Janeiro</b> .....	Nov. 21-Dec. 26.....		10	
	Dec. 26-Jan. 30.....		28	
	Jan. 31-Feb. 6.....	12	5	
	Feb. 13-Feb. 20.....	21	6	
	Feb. 20-Mar. 6.....		16	
	Mar. 7-Apr. 10.....	100	33	
<b>Cuba:</b>				
<b>Cardenas</b> .....	Dec. 25-Jan. 30.....	84	8	
	Jan. 31-Feb. 27.....	38	1	
	Apr. 17-May 1.....	6	2	
<b>Cienfuegos</b> .....	Dec. 20-Dec. 27.....		8	
	Dec. 28-Jan. 17.....		2	
	Apr. 4-Apr. 11.....		1	
<b>Habana</b> .....	Dec. 17-Dec. 31.....	220	79	
	Jan. 1-Jan. 28.....	400	144	
	Jan. 28-Feb. 25.....	117	44	
	Feb. 25-Mar. 25.....	130	38	
	Mar. 25-Apr. 29.....	342	85	
	Apr. 30-May 13.....	124	32	
<b>Manzanillo</b> .....	Apr. 1-Apr. 15.....		1	
<b>Matanzas</b> .....	Dec. 9-Dec. 23.....		8	
	Dec. 23-Jan. 27.....		19	
	Jan. 27-Feb. 24.....		4	
	Feb. 25-Mar. 31.....		2	
	Apr. 1-May 5.....		3	
<b>Santiago</b> .....	Dec. 5-Dec. 26.....		17	
	Dec. 26-Jan. 30.....		16	
	Jan. 16-Jan. 31.....		5	
	Jan. 30-Feb. 27.....		6	
	Feb. 27-Mar. 27.....		3	
	May 2-May 8.....		1	

*Cholera, yellow fever, plague, etc.—Continued.*

YELLOW FEVER—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Cuba*:				
Sagua la Grande.....	Dec. 19-Dec. 26...	50	5	
	Dec. 26-Jan. 9...	65	6	
	Jan. 9-Jan. 30...	110	12	
	Jan. 31-Feb. 27...	35	7	
	Feb. 27-Mar. 27...	54	17	
	Mar. 28-May 8...	115	11	
Ecuador:				
Guayaquil.....	Dec. 18-Jan. 1.....		9	
Haiti:				
Port au Prince.....	Dec. 1-Dec. 7.....		2	Yellow fever epidemic.
	Dec. 14.....			
	Mar. 1-Mar. 8.....		3	
Guadeloupe:				
Basse Terre.....	Jan. 5.....	1		
United States of Colombia:				
Panama.....	Apr. 14.....	20	17	Yellow fever continues.
	May 4.....			

PLAGUE.

Egypt:				
Suez.....	Mar. 31.....			One case of plague on Br. S. S. <i>Dilwara</i> from Bombay.
India:				
Bombay †.....	Dec. 1-Dec. 22.....		694	This is the number of deaths officially reported. The United States consul estimates the number of deaths for the same period at 2,763.
	Dec. 22-Jan. 5.....		738	Estimated deaths for this same period, 2,953.
	Jan. 5-Jan. 12.....		335	Estimated deaths for this same period, 1,388.
	Jan. 12-Jan. 19.....		470	
	Jan. 19-Jan. 26.....		443	Estimated deaths for this same period, 1,462.
	Jan. 26-Feb. 23.....		2,884	Estimated deaths for this same period, 5,845.
	Feb. 23-Mar. 9.....		1,282	Estimated deaths for this same period, 2,265.
	Mar. 9-Mar. 30.....		1,431	Estimated deaths for this same period, 2,730.
	Mar. 31-Apr. 13.....		777	Estimated deaths for this same period, 1,412.
Calcutta.....	Feb. 6-Feb. 13.....		1	
Karachi.....	Jan. 11.....			Plague epidemic; 220 cases, 214 deaths to date.
China:				
Hongkong.....	Dec. 13-Dec. 29.....			A few cases.
Japan:				
Formosa.....	Nov. 6-Nov. 30...	53	37	
	Dec. 4-Dec. 29...		15	
	Jan. 19-Jan. 27...	3		
	Feb. 23-Mar. 12...	3		
	Mar. 13-Mar. 23...	4		
	Mar. 24-Mar. 31...	3		
Russia:				
St. Petersburg.....	Apr. 10-Apr. 17...		1	
Theodosia.....	Mar. 31.....			One case of plague on Br. S. S. <i>Baldwin</i> .

\* February 23, 1897, 300 cases of yellow fever were reported among the sick soldiers on the Island.  
 † Official returns show 9,118 cases and 7,602 deaths to March 12.

## BRAZIL.

*Sanitary report from Rio.*RIO DE JANEIRO, *April 12, 1897.*

SIR: I have the honor to send report for the week ended April 10, 1897:

There were 14 deaths from *accesso pernicioso*, an increase of 8; 1 from yellow fever, a decrease of 7; 16 from beriberi, an increase of 4; 4 from enteric fever, and 1 from whooping cough, none in the foregoing week; 49 from tuberculosis, a decrease of 1; and 325 from all causes, a decrease of 9.

*Yellow fever.*—This disease is decreasing every week, but slowly. I attribute the increased number of deaths from *accesso pernicioso*, to the decrease of yellow fever, as in such a case it is very common to call *yellow fever* by that name.

*Beriberi.*—This disease still continues at nearly about the same intensity, and is almost confined to the troops in the forts.

Since last report the following-named ships have been inspected or received bills of health from this office: April 6, barkentine *Athena*, British, for Brunswick, Ga. April 7, steamship *Coleridge*, British, for New York, N. Y.; steamship *Drumfell*, British, for Pensacola, Fla., and bark *Oliveira*, Portuguese, for New Orleans, La. April 8, steamship *Whitby*, British, for Tampa, Fla.

Respectfully, yours,

R. CLEARY,  
*Sanitary Inspector, U. S. M. H. S.*

## CUBA.

*Smallpox and yellow fever in Cuban seaports.*

May 15: The United States sanitary inspector at Habana reports that during the week ended May 13 there were in that city 14 deaths from yellow fever, with 54 new cases, and 80 new cases of smallpox, with 11 deaths.

May 12: The United States consul at Cardenas reports that during the week ended May 8 there were in that city 8 new cases and 2 deaths from yellow fever, and 10 cases and 1 death from smallpox.

May 7: The United States consul at Matanzas reports that during the week ended May 5 there were in that city no deaths from smallpox and 1 death from yellow fever.

May 7: The United States consul at Manzanillo reports that during the two weeks ended April 15 there was in that city 1 death from yellow fever.

May 10: The United States consul at Sagua la Grande reports that during the week ended May 8 there were in that city 25 new cases of yellow fever. Deaths not reported.

May 8: The United States sanitary inspector at Santiago reports that during the week ended May 8 there was in that city 1 death from yellow fever.

*Sanitary report from Habana.*HABANA, CUBA, *May 15, 1897.*

SIR: I have the honor to inform you that yellow fever continues to be almost entirely confined to Spanish soldiers in the military hospitals, and up to the present time has not increased, and probably will not as long as the weather keeps as cool and dry as it has been for the last month. Smallpox slowly diminishes in Habana and the immediate suburbs, although it is quite prevalent in some of the outlying towns, as Guanabacoa and Guines.

*Mortuary report.*—During the week ended May 13, there were 214 deaths in this city from all diseases, 14 of which were caused by yellow fever, with approximately 54 new cases; 11 were caused by smallpox, with 80 new cases, approximately; 5 were caused by so-called pernicious fever, 7 by enteric fever, 2 by malarial fever, 11 by dysentery, 21 by enteritis, 1 by diphtheria, 3 by pneumonia, and 40 by tuberculosis.

Thirteen of the deaths during the week from yellow fever were among Spanish soldiers in the military hospitals, the remaining one being a civilian. Nine of the deaths from smallpox were among civilians, while the remaining two were Spanish soldiers.

Very respectfully, your obedient servant,

D. M. BURGESS,  
*Sanitary Inspector, U. S. M. H. S.*

*Sanitary reports from Santiago.*SANTIAGO DE CUBA, *May 1, 1897.*

SIR: I have the honor to inform you that there were 55 deaths during the week ended May 1. Of these 16 were from dysentery, 6 from enteritis, 3 from tuberculosis, 4 from remittent, 2 from pernicious malarial fever; the rest from common diseases of noncontagious character.

There are several cases of yellow fever reported, but no deaths from it yet. Eruptive fevers are prevailing, but so far of mild character. Diarrhea, very frequent among us at the beginning of the spring, causes many victims. Dysentery continues its ravages under an epidemic form. The rainy season has begun, and we have enjoyed a cooler temperature lately.

Respectfully,

Dr. H. S. CAMINERO,  
*Sanitary Inspector, U. S. M. H. S.*

SANTIAGO DE CUBA, *May 8, 1897.*

SIR: I have the honor of submitting the following report on the sanitary condition of Santiago de Cuba for the week ended Saturday, May 8. There were 64 deaths recorded, nine more than last week. Of these, 23 were from dysentery, 5 from tuberculosis, 1 from yellow fever, 3 from remittent, and 4 from pernicious fever, the rest from common diseases noncontagious. Yellow fever is becoming frequent among the soldiers; there are some cases of the disease at the military hospital, and as the warm weather is already on us the disease will begin its deadly work among the unacclimated. Dysentery is causing by far the greatest number of deaths. It is epidemic and attacks indiscriminately children and adults. Diarrhea is also very common, and malaria, under the form of intermittent and remittent fever, prevails largely.

Respectfully,

Dr. H. S. CAMINERO,  
*Sanitary Inspector, U. S. M. H. S.*



## INDIA.

*The bubonic plague bacillus in grain and flour.*

BOMBAY, April 7, 1897.

SIR: I have the honor to inclose herewith a copy of a letter on the occurrence of the bubonic plague microbe in grain and flour, from Prof. E. H. Hankin, chemical examiner and bacteriologist Northwest Provinces and Oudh, to the secretary of the Bombay chamber of commerce, dated February 19, 1897. \* \* \*

I have the honor to be, sir, your most obedient servant,  
S. COMFORT,  
United States Consul.

HON. ASSISTANT SECRETARY OF STATE.

[Inclosure.]

HEALTH OFFICE LABORATORY,  
Bombay, 19th February, 1897.

SIR: In reply to your inquiry as to whether I have ever found the bubonic plague microbe in grain and flour, I beg to state that, although I have examined a large number of specimens under different conditions, I have never succeeded in detecting it. My observations have been carried out on both clean and dirty grain, sweepings of granaries, under infected dwellings, grain mixed with rats' dejecta taken from near the body of a dead rat, grain that had been carried by rats through a hole in the wall of a granary and stored in a latrine, but in all cases a negative result has been obtained. I have also examined weevils and other insects parasitic on stored grain without detecting the microbe. I have recently examined flour from a small godown in the fort in which rats had been dying of the plague with a negative result.

2. It is my opinion that the only connection of grain with the plague in Bombay is that, at the beginning of the outbreak, large numbers of rats were affected, and that these animals were especially common in the neighborhood of granaries.

I have, etc.,

E. H. HANKIN, M. A.,  
Chemical Examiner and Bacteriologist N. W. Provinces and Oudh.

To the SECRETARY TO THE CHAMBER OF COMMERCE, Bombay.

## JAPAN.

*Smallpox declines—Plague increases.*

YOKOHAMA, April 23, 1897.

SIR: I have the honor to forward herewith my regular report on infectious diseases in Japan for period April 1 to April 22, inclusive. In so doing, I beg to call your attention to the sharp and fatal outbreak of plague in Tainan, Formosa, since the 1st of the present month, as well as to the decided decline of the smallpox epidemic as regards the country at large. This decline is particularly apparent in Kobe, Yokohama, and Tokyo, the places of greatest importance to us, as supplying the larger proportion of steamer travel.

The occurrence of smallpox in Yokohama and its suburbs, April 1 to April 22, has been as follows: April 1, no case, 1 death; April 2, no case, no death; April 3, 2 cases, no death; April 4, 2 cases, 1 death; April 5, 3 cases, no death; April 6, 1 case, 1 death; April 7, 3 cases, no death; April 8, no case, no death; April 9, no case, 1 death; April 10, no case, no death; April 11, 2 cases, no death; April 12, 1 case, no death; April 13, 3 cases, 1 death; April 14, no case, no death; April 15, 1 case, no death; April 16, no case, no death; April 17, no case, no

death ; April 18, 1 case, no death ; April 19, no case, no deaths ; April 20, no case, no death ; April 21, no case no death ; April 22, 1 case, no death. Total, 20 cases ; 5 deaths.

I have learned of no cases of typhus fever in Tokyo since my last report, but measles, of rather a mild type, is exceedingly prevalent both in that city and in Yokohama.

I am, sir, very respectfully, your obedient servant,  
 STUART ELDRIDGE, M. D.,  
 Sanitary Inspector, U. S. M. H. S.

[Inclosure.]

*Report of infectious disease in Japan, April 1, to April 22, 1897.*

Locality.	Smallpox.		Locality.	Smallpox.	
	Cases.	Deaths.		Cases.	Deaths.
Kioto Fu.....	76	19	Nagano Ken.....	26	5
Osaka Fu.....	918	506	Nagasaki Ken.....		
Tokyo Fu.....	84	21	Nara Ken.....		
Aichi Ken.....	87	24	Niigata Ken.....	134	31
Akita Ken.....	18		Oita Ken.....	88	18
Awomori Ken.....	3		Okayama Ken.....	61	12
Chiba Ken.....	138	32	Okinawa Ken.....	48	27
Fukui Ken.....	6		Saga Ken.....		
Fukuoka Ken.....	271	109	Saitama Ken.....	71	20
Fukushima Ken.....	37	21	Shidzuoka Ken.....	137	28
Gifu Ken.....	11	6	Shiga Ken.....	15	2
Gumma Ken.....	42	10	Shimane Ken.....	10	1
Higo Ken.....	292	71	Tochigi Ken.....	50	21
Hiroshima Ken.....	115	30	Tokushima Ken.....	335	96
Ibaraki Ken.....	152	32	Tottori Ken.....	40	7
Ishikawa Ken.....	1		Toyama Ken.....	6	4
Iwate Ken.....	39	7	Wakayama Ken.....		
Kagawa Ken.....	10	2	Yamagata Ken.....	18	1
Kagoshima Ken.....	79	28	Yamaguchi Ken.....	16	3
Kanagawa Ken (Yokohama).....	83	27	Yamanashi Ken.....	12	5
Kochi Ken.....	14	4	Yehime Ken.....	55	11
Kumamoto Ken.....	14	2	The Hokkaido.....	33	5
Miyagi Ken.....	81	21	Taiwan (Formosa).....	(*)	(*)
Miyazaki Ken.....	30	2			
Miye Ken.....			Totals.....	3,750	1,271

\*Sixty-four cases and 54 deaths from plague.

STUART ELDRIDGE, M. D.,  
 Sanitary Inspector, U. S. M. H. S.

*Additional report of plague in Formosa.*

YOKOHAMA, April 24, 1897.

SIR: I have the honor to inform you that since closing my regular report of infectious diseases in Japan I have received the following important information with regard to the outbreak of plague in Formosa.

*By telegram from Taiwan, Formosa :*

April 20 and 21, new cases, 23. April 22 and 23, new cases, 24.

Quarantine against Formosa will be immediately enforced in the ports of Japan proper. It remains to be seen with what success.

I am, sir, very respectfully, your obedient servant,  
 STUART ELDRIDGE, M. D.,  
 Sanitary Inspector, U. S. M. H. S.

## MEXICO.

*Sanitary report from Tampico.*TAMPICO, *May 1, 1897.*

SIR: I inclose report of the vital statistics of this port for the year 1896 and the first quarter of 1897.

The authorities attempt to keep a record of the causes of death, but the result is a failure, as fully 50 per cent of the persons who die have never been viewed by a physician; so that naming the cause of death is mere guesswork. \* \* \*

The warm dry season is the most healthy. In the early fall after rains we may expect and do have malarial fevers.

This section is supposed to be in the district where rains prevail for nearly six months in the year. My experience of three and one-half years makes me place this city in the dry belt, as we have had little or no rain during my residence here. Everything has been burned up by the excessive droughts.

The most sickly period of the year is during the prevalence of the northers, and then we have almost an epidemic of pulmonary diseases. The reason for this is that the people are not prepared for the cold north winds, when the mercury gets below 50° F. During the month of January past it reached 36 (almost the ice point).

The houses of the well-to-do people are not provided with heating appliances. There are not to exceed 30 open fireplaces, nor are there 30 heating stoves in this city.

The locality most dreaded from a health standpoint is the Indian village, 3½ miles below the city, which has a population of about 3,000 Indians who are brought down from the mountain districts at any and all seasons, and whilst they are becoming acclimated a great many get sick and die. They will not engage a physician—they rely upon the old medicine woman's herbs; to get sick is to die.

These people live in small grass huts, sleep on a grass mat on a dirt floor, and their only heating appliances are a few embers from the fire on which their food is cooked.

The men labor on the wharf, frequently in raw, damp weather, so they get cold, sicken and die. This Indian village, with about one-fourth of the city's population, furnishes three-fourths of the mortality.

This village has not heretofore had an adequate supply of water, but the railroad company have just finished a pipe line to supply it.

During the last season we had some few cases of smallpox. None exists now.

It is asserted by responsible parties that no yellow fever has appeared here since June, 1878, and then it was brought in a corn-laden schooner from New Orleans.

Whilst this port can not be claimed as a special health resort, the records of the consulate are very remarkable. From October 1, 1893, to March 31, 1897, three years and six months, there arrived here 22,964 seamen in American vessels, and there were no deaths from natural causes. The only deaths were 5 men, who were accidentally drowned.

The British vice-consul has kindly furnished me with the records from his office from January 1, 1894, to March 31, 1897—three years and three months. There arrived 12,524 seamen on British ships, and during said period there were 2 deaths from natural causes and 3 from accidental drowning.

But few, if any, ports on the gulf can show such a record, yet Tampico is classed as a suspicious port in regard to health.

I shall take great pleasure in keeping you advised of any changed condition of health, and will at once advise if any quarantinable disease breaks out.

I am, sir, yours most respectfully,

JOHN MAGUIRE,  
United States Consul.

[Inclosure.]

*Mortality of Tampico, 1896.\**

Months.	Adults.	Children.	Total.
1896.			
January.....	33	20	53
February.....	22	20	42
March.....	39	12	51
April.....	41	10	51
May.....	26	16	42
June.....	24	20	44
July.....	19	19	38
August.....	42	36	78
September.....	38	47	85
October.....	45	32	77
November.....	56	50	106
December.....	77	54	131
Total.....			798
1897.			
January.....			87
February.....			119
March.....			76

\* Estimated population, 13,000.

*Statistical reports.*

AUSTRALIA—*Brisbane*.—Month of February, 1897. Estimated population, 93,657. Total deaths, 67, including phthisis pulmonalis, 6; enteric fever 8, and diphtheria, 4.

*Sydney*.—Month of February, 1897. Estimated population, 410,000. Total deaths, 396, including enteric fever, 5; diphtheria, 3; measles, 1; and scarlet fever, 2.

BAHAMAS—*Dunmore Town*.—Two weeks ended May 7, 1897. Estimated population, 1,472. No deaths.

*Green Turtle Cay—Abaco*.—Two weeks ended May 6. Estimated population, 3,900. No deaths.

BRAZIL—*Ceara*.—Month of March, 1897. Estimated population, 44,000. Total deaths, 283.

CUBA—*Manzanillo*.—Two weeks ended April 15, 1897. Estimated population, 15,000. Total number of deaths, 45, including yellow fever, 1, and enteric fever, 2.

GREAT BRITAIN—*England and Wales*.—The deaths registered in 33 great towns of England and Wales during the week ended May 1 correspond to an annual rate of 18.3 a thousand of the aggregate population, which is estimated at 10,992,524. The highest rate was recorded in Salford, viz, 28.9, and the lowest in West Ham, viz, 9.9 a thousand.

*London.*—One thousand four hundred and forty-two deaths were registered during the week, including measles, 23; scarlet fever, 13; diphtheria, 40; whooping cough, 43; enteric fever 5, and diarrhea and dysentery, 8. The deaths from all causes correspond to an annual rate of 16.8 a thousand. In greater London 1,862 deaths were registered, corresponding to an annual rate of 15.4 a thousand of the population. In the "outer ring" the deaths included 9 from diphtheria; 6 from measles; 12 from whooping cough, and 3 from scarlet fever.

*Scotland.*—The deaths registered in 8 principal towns during the week ended April 17 correspond to an annual rate of 22.3 a thousand of the population, which is estimated at 1,549,907. The lowest mortality was recorded in Leith, viz, 18.0, and the highest in Perth, viz, 26.0 a thousand. The aggregate number of deaths registered from all causes was 665, including scarlet fever, 4; diphtheria, 6; measles, 39, and whooping cough, 39.

*Ireland.*—The average annual death rate represented by the deaths registered during the week ended May 1 in the 23 principal town districts of Ireland was 25.4 a thousand of the population. The lowest rate was recorded in Tralee, viz, 0.0, and the highest in Galway, viz, 41.5 a thousand. In Dublin and suburbs 198 deaths were registered, including whooping cough, 13; 3 from enteric fever, 2 from diphtheria, and 16 from measles.

NORFOLK ISLAND.—Month of February, 1897. Estimated population, 869. No deaths.

Month of March, 1897. One death from phthisis pulmonalis.

NOVA SCOTIA—*Yarmouth.*—Two weeks ended May 9, 1897. Estimated population, 6,500. Total deaths, 1.

WEST INDIES—*St. Thomas.*—Months of January, February, and March, 1897. Estimated population, 12,019. Total number of deaths, 587.

MORTALITY TABLE, FOREIGN CITIES.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—									
				Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.	
Acapulco.....	May 4.....	5,000	5										
Aix la Chapelle.....	Apr. 14.....	112,410	48						1				
Alexandria.....	Apr. 1.....	231,396	186			2			1	3	1		
Do.....	Apr. 8.....	231,396	166							10	1		
Amsterdam.....	May 1.....	495,589	182						3				
Belfast.....	do.....	277,354	133				8		1	3	7		
Belleville.....	May 10.....	10,459	1										
Bergen.....	Apr. 21.....	57,800	15									1	
Bermuda.....	Apr. 30.....	15,013	2										
Birmingham.....	May 1.....	505,772	199				1	1	1	1	3	7	
Bombay.....	Apr. 15.....	821,764	*970	1		1		1			9		
Bremen.....	Apr. 17.....	142,500	58						1				
Do.....	Apr. 24.....	142,500	42										
Bristol.....	May 1.....	232,242	82						1		1	3	1
Brussels.....	Apr. 24.....	507,885	174					2			3	1	4
Cairo.....	Apr. 1.....	374,838	300			1		2		3		2	
Do.....	Apr. 8.....	374,838	327					11		1			2
Calcutta.....	Apr. 3.....	681,560	543	118		16					6		
Callao.....	Apr. 11.....	16,000	25										
Cardiff.....	May 1.....	170,063	45								3		
Catania.....	Apr. 27.....	120,000	54					1		1			
Chatham.....	May 10.....	9,052	2										
Christiania.....	Apr. 24.....	182,856	71					1				3	
Do.....	May 1.....	182,856	50					1		1			
Cienfuegos.....	May 9.....	24,030	34								1		
Cognac.....	Apr. 24.....	20,500	3										
Cologne.....	do.....	333,645	128					1		4		2	
Copenhagen.....	do.....	333,714	119							2	2	16	13
Dublin.....	May 1.....	350,000	198				3	2		1	2	13	2
Dundee.....	do.....	154,118	50							1			2
Dusseldorf.....	Apr. 24.....	185,579	59							2			3
Flushing.....	May 1.....	17,193	8										
Frankfort on the Main.....	do.....	238,000	89							1		1	
Funchal.....	Apr. 24.....	35,665	11										
Genoa.....	May 1.....	211,683	98					1			3		
Gibraltar.....	Apr. 25.....	25,800	14										
Girgenti.....	Apr. 24.....	24,428	8										
Glasgow.....	May 1.....	714,919	283			6			1	3	12	24	
Gothenburg.....	Apr. 25.....	115,896	62					2			1	5	
Governors Harbor.....	May 7.....	15,000	1										
Guayaquil.....	Apr. 16.....	50,000	94										
Do.....	Apr. 23.....	50,000	97										
Do.....	Apr. 30.....	50,000	83										
Halifax.....	May 8.....	38,700	17										
Hamburg.....	Apr. 24.....	641,780	210							1		1	
Do.....	May 1.....	644,000	204					1		1		2	
Hongkong.....	Apr. 3.....	232,662	16			9							
Honolulu.....	Apr. 24.....	30,000	16							1			
Iquique.....	Mar. 27.....	23,106	31			2							
Do.....	Apr. 3.....	23,106	28										
Do.....	Apr. 10.....	23,106	40					1					
Do.....	Apr. 17.....	23,106	39										
Kingston, Canada.....	May 14.....	18,040	2										
Konigsberg.....	May 1.....	171,700	138							2		1	1
Leeds.....	do.....	402,449	9					1			1		
Licata.....	Apr. 24.....	20,000	59										
Liege.....	do.....	163,107	43								1		
Do.....	May 1.....	163,107	29										
Leghorn.....	do.....	107,755	271					1					
Liverpool.....	do.....	644,129	13					1	4		14	8	
London, Canada.....	May 8.....	34,855	262							1			
Madras.....	Apr. 9.....	452,518	282			2					13		
Madrid.....	Apr. 28.....	482,816	266					7		2	18		
Magdeburg.....	Apr. 10.....	217,068	79										
Manchester.....	May 1.....	536,426	253						3	1	19	13	
Mannheim.....	Apr. 24.....	101,500	39										
Do.....	May 1.....	101,500	42							1	3		
Matamoras.....	May 8.....	12,000	9										
Matanzas.....	May 5.....	62,000	81		1			2		1	7		
Melbourne.....	Mar. 13.....	450,000	4					4		1	3		
Do.....	Mar. 20.....	450,000	20					1			2		
Messina.....	May 1.....	107,000	20			1							

\* Bubonic plague 378.

## MORTALITY TABLE, FOREIGN CITIES—Continued.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—							
				Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.
Moscow	Apr. 17	800,000	497				2	12	15	12	4
Munich	Apr. 30	418,000	193				1	3	3	6	2
Nagasaki	Apr. 18	71,730			10						
Nuremberg	Apr. 17	173,817	79					1		5	2
Odessa	Apr. 24	353,000	167		3		1	2	4		1
Osaka and Hiogo	Apr. 10	182,730	126		4				1		
Do	Apr. 17	182,730	103		2		1		2		
Palermo	Apr. 24	273,000	129		2				2		
Paris	May 1	2,511,955	979				4	4	10	51	4
Plymouth	do	89,686	25					1			1
Port au Prince	Apr. 19	60,000	19								
Do	Apr. 26	60,000	15								
Do	May 3	60,000	18								
Puerto Barrios	May 1	2,000	1								
Quebec	do	70,000							2		
Do	May 8	70,000							2		
Rio de Janeiro	Feb. 6	650,000	* 282	5	1		1				
Do	Apr. 10	650,000	† 325	1			4				1
Rotterdam	May 1	286,104	104				1				
Sagua la Grande	do	17,536	33								
Do	May 8	17,536	32								
St. Georges	do	2,150	1								
St. Petersburg	Apr. 24	1,013,000	648		3		13	11	28	38	
St. Stephens	May 8	3,000	2								
St. Thomas	Apr. 9	12,019	9								
Do	Apr. 16	12,019	10								
Do	Apr. 23	12,019	10								
Schiedam	May 1	26,627	8								
Sheffield	do	352,485	151					2	1	4	3
Southampton	do	98,002	39					2		2	2
South Shields	do	95,798	29					1		2	2
Stockholm	Apr. 24	267,100	104					1		1	
Stuttgart	Apr. 29	158,378	91				1		4		
Sunderland	Apr. 24	142,107	105					2			2
Trapani	do	43,095	12								
Trieste	do	158,314	86		1		1	2	2	3	
Tuxpan	Apr. 10	10,280	7								
Do	Apr. 17	10,280	9								
Do	Apr. 24	10,280	5								
Vera Cruz	May 6	30,000	28								
Warsaw	Apr. 17	601,972	217		3	2	1	3	2	1	1

\* Beriberi, 8. † Beriberi, 16.

By authority of the Secretary of the Treasury :

WALTER WYMAN,  
Supervising Surgeon-General U. S. Marine-Hospital Service.