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## RESULTS OF A DENTAL EXAMINATION OF 1,908 WHITE AND COLORED MALES AT THE OHIO STATE REFORMATORY

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The dental examinations upon which this report is based were made in connection with the nationwide survey of dental needs of children of school age conducted by the United States Public Health Service in cooperation with the committee for dental health survey of the American Dental Association. Of the various groups that were surveyed and for which complete examinations were returned to the Public Health Service, only one group included young adults exclusively. This particular group represented the inmates of the Ohio State Reformatory at Mansfield. It is logical to present the results of the examinations of this group separately from those of the children,<sup>1</sup> and it is with this thought that the present paper is offered. So far as is known, comparable data from a similar population have not been published.

### MANSFIELD AND THE REFORMATORY

Mansfield, a manufacturing center and the county seat of Richland County, lies 75 miles southwest of Cleveland. The city occupies about 5 square miles of rolling ground over 1,000 feet above sea level in a rich agricultural region. In 1930 the population was 33,000. The reformatory, which is located in the suburbs of the city, was established in 1884 for the purpose of separating the younger offenders from the older and more hardened criminals of the Ohio Penitentiary and subsequently reforming them (1). The 3,372 offenders, all males, white and colored, 16 to 30 years of age, are from various parts of the State and were committed principally for the stealing of automobiles, burglary, and other larceny. About 75 percent of the inmates are white native Americans; 20 percent are colored. Only a negligible number attended high school or college. The activities at the institution include instruction in the regular school subjects, vocational

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<sup>1</sup> A Public Health Bulletin, *Dental Survey of School Children, Ages 6-14 Years, Made in 1933-34 in 26 States*, has been submitted for publication.

training courses, building construction, factory work, farming, and systematic physical training. The time served by an inmate is, on the average, 18 months.

#### DENTAL FACILITIES AND ACTIVITIES AT THE REFORMATORY

The dental personnel is appointed by the superintendent of the reformatory upon the recommendation of the institution physician, and consists of one part-time dentist who is available daily, and one inmate assistant. When a boy is admitted to the institution he is given a dental examination; any cleanings, fillings, or extractions are free of charge to those wishing them. A sick call is held every day, and any dental complaints are made to the institution physician who, in turn, makes his recommendations to the dentist; as on admission, cleanings, fillings, and extractions are free of charge to those wishing them. The routine dental work of 1933 included 1,428 cleanings, 1,034 fillings, 1,467 extractions, and the examination of 1,625 boys who were either received from the courts or returned to the institution.

#### THE POPULATION EXAMINED

The total inmate population as of December 31, 1933, was 3,372; and of these 1,908, or 57 percent, constituted the examined population. Only those living inside the walls of the institution were examined; those living in dormitories outside the enclosure were excluded. Of those examined, 79 percent were white and 21 percent were colored; their ages ranged from 16 through 30 years. The general health of the group was good. Table 1 gives the number and percent of those examined, classified according to single years of age and color.

TABLE 1.—*Number and percent of males examined, classified by age and color \**

Age	Total		White males		Colored males	
	Number	Percent	Number	Percent	Number	Percent
Total.....	1,908	100.0	1,499	100.0	409	100.0
16.....	12	0.6	9	0.6	3	0.7
17.....	42	2.2	36	2.4	6	1.5
18.....	145	7.6	119	7.9	26	6.4
19.....	231	12.1	188	12.5	43	10.5
20.....	258	13.5	206	13.8	52	12.7
21.....	240	12.6	188	12.5	52	12.7
22.....	197	10.3	157	10.5	40	9.8
23.....	170	8.9	129	8.6	41	10.0
24.....	152	8.0	115	7.7	37	9.0
25.....	105	5.5	79	5.3	26	6.4
26.....	90	4.7	72	4.8	18	4.4
27.....	81	4.3	59	3.9	22	5.4
28.....	73	3.8	55	3.7	18	4.4
29.....	67	3.5	51	3.4	16	3.9
30.....	45	2.4	36	2.4	9	2.2

\* Number of males present in the Ohio State Reformatory on Dec. 31, 1933, was 3,372, of whom 1,908 (56.6 percent) were examined. Of those examined, 78.6 percent were white and 21.4 percent were colored.

The total population of 3,372 included a few above 30; those above 30 who were examined are not included in the 1,908.

## THE DENTAL EXAMINATION

The items on the examination form, which will be analyzed subsequently, may be conveniently classified under two major subjects—indications for treatment, and previous treatment as observed. Under the first is included the presence or absence of the following: any indication for treatment, malocclusion (when present, classified as slight or severe),<sup>2</sup> prophylaxis, diseased gums, indicated fillings (including the number), and indicated extractions (including the number). In the matter of diseased gums no effort was made to differentiate between the various forms of pathology. Under the second subject, namely, previous treatment, is included the presence or absence of any observed treatment of the past, prophylaxis (history), filled teeth (including the number), and extracted teeth (including the number).

All the examinations were made by a single observer, J. D. McLeod, D. D. S., institution dentist, with the aid of a dental mouth mirror and an explorer, and with the inmate facing a good light. Pits and fissures were included as indications for fillings.

## ANALYSIS OF THE DATA

Since the number of examinations as shown in table 1 is small for each single year of age for the colored and for the younger and older members of the white population, it was decided to group the single ages of each color into three 5-year age groups, namely, 16–20, 21–25, and 26–30, respectively.

*Indications for dental treatment.*—The number and percent of white and colored males of the three age groups with specified indications for treatment are shown in table 2. The impression gained from the table is that the white population is relatively in greater need of treatment than the colored, and that in each race the percentages increase with age, with the possible exception of those percentages associated with the malocclusions which, in general, decrease. A consideration of the observations from the point of view of the theory of sampling, however, reveals that many of the differences are more apparent than real; that is, they are not significant but are probably the result of the operation of chance.

<sup>2</sup> Malocclusion should not, of course, be included as an indication for treatment when dealing with an adult population. In the subsequent reports on children of school age the inclusion is justifiable. For the sake of uniformity, and because of the findings connected with malocclusion, it has been decided not to exclude the term from this paper nor from this classification.

TABLE 2.—*Number and percent of white and colored males of different age groups with specified indications for dental treatment*

Indications for dental treatment	White males				Colored males			
	All ages	16-20	21-25	26-30	All ages	16-20	21-25	26-30
Total examined.....	1, 499	558	668	273	409	130	196	83
Any indication.....	1, 448	534	649	265	331	115	186	80
Percent.....	96. 6	95. 7	97. 2	97. 1	93. 2	88. 5	94. 9	96. 4
Slight malocclusion.....	270 <sup>4</sup>	120	113 <sup>3</sup>	37 <sup>1</sup>	50	19	23	8
Percent.....	18. 1	21. 5	17. 0	13. 6	12. 2	14. 6	11. 7	9. 6
Severe malocclusion.....	116 <sup>4</sup>	45	51 <sup>3</sup>	20 <sup>1</sup>	25	12	8	5
Percent.....	7. 8	8. 1	7. 7	7. 4	6. 1	9. 2	4. 1	6. 0
Prophylaxis.....	1, 246	424	580	242	328	89	165	74
Percent.....	83. 1	76. 0	86. 8	88. 6	80. 2	68. 5	84. 2	89. 2
Diseased gums.....	907 <sup>1</sup>	266 <sup>1</sup>	438	203 <sup>1</sup>	222	47	118	57
Percent.....	60. 6	47. 8	65. 6	74. 6	54. 3	36. 2	60. 2	68. 7
Fillings indicated.....	638 <sup>1</sup>	227 <sup>1</sup>	291 <sup>1</sup>	120	131	37	57	37
Percent.....	42. 6	40. 8	43. 6	44. 0	32. 0	28. 5	29. 1	44. 6
Number of fillings.....	1, 214 <sup>3</sup>	423 <sup>1</sup>	581 <sup>1</sup>	210	211	51	91	69
Number per 100 males.....	81. 1	75. 9	87. 1	76. 9	51. 6	39. 2	46. 4	83. 1
Extractions indicated.....	331	127	177	77	94	26	44	24
Percent.....	25. 4	22. 8	26. 5	28. 2	23. 0	20. 0	22. 4	28. 9
Number of extractions.....	810	211	406	193	193	38	92	63
Number per 100 males.....	54. 0	37. 8	60. 8	70. 7	47. 2	29. 2	46. 9	75. 9

NOTE.—The superscripts indicate the number of persons for which the particular item is unknown.

The application of significance tests<sup>3</sup> with regard to color differences discloses that in the youngest age group a greater percentage of whites was found to have some indication for treatment and to have diseased gums, and that both in the youngest and middle age groups the indication for one or more fillings is greater in the white population. As regards age differences in the whites, the percentages requiring prophylaxis in the middle and oldest groups are each greater than the percentage in the youngest age group, and the percentage showing diseased gums is definitely greater in each succeeding age group. In the colored population the percentages associated with prophylaxis behave like those of the whites, and the percentages showing diseased gums in the middle and oldest groups are each greater than the percentage in the youngest group. With respect to fillings, which presented no real age differences in the whites, the percentage in the oldest group is greater than either of the percentages of the other two age groups.

In summary, it may be stated that color is of importance in the youngest and middle age groups with respect to the need for one or more fillings, and in the youngest group with respect to any indication for treatment, and diseased gums; in all of these the whites presented higher percentages. Age is of importance in both races with respect

<sup>3</sup> The significance of differences with regard to the number of fillings and the number of extractions indicated (table 2), and the number of filled teeth and the number of extractions observed (table 4), will be examined in the discussions of tables 3 and 5, respectively.

to needed prophylaxis and diseased gums, and only in the colored with respect to fillings; all of these showed higher percentages in the oldest group than in the youngest. All other differences with respect to color or age not specifically referred to were found to be non-significant.

*Number of indicated fillings, and of extractions, per person.*—Table 3 shows the white and colored populations of the three age groups classified according to the number of indicated fillings and extractions, respectively, per person. The table reveals that the whites of all three age groups have a smaller percentage of persons than the colored of the corresponding age groups with no indications for fillings or for extractions, and that in each race these percentages decrease with age. It is observed further that, in general, the various distributions (1-32) behave similarly in that the first term of each is relatively high and the successive terms decrease in magnitude as the number of fillings or extractions indicated increases.

TABLE 3.—*Distribution of white and colored males of different age groups according to the frequency of (a) fillings and (b) extractions indicated*

Number of fillings and extractions indicated per person	White males								Colored males							
	All ages		16-20		21-25		26-30		All ages		16-20		21-25		26-30	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total examined....	1,499	100.0	558	100.0	668	100.0	273	100.0	409	100.0	130	100.0	196	100.0	83	100.0
(a) Fillings:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
None.....	859	57.4	330	59.2	376	56.4	153	56.0	278	68.0	93	71.5	139	70.9	46	55.4
1.....	341	22.8	128	23.0	152	22.8	61	22.4	76	18.6	26	20.0	31	15.8	19	22.9
2.....	158	10.6	52	9.3	68	10.2	39	13.9	41	10.0	10	7.7	20	10.2	11	13.3
3.....	74	4.9	22	4.0	39	5.8	13	4.8	6	1.5	0	0	5	2.6	1	1.2
4.....	32	2.1	14	2.5	12	1.8	6	2.2	5	1.2	0	0	0	0	5	6.0
5 and over.....	33	2.2	11	2.0	20	3.0	2	.7	3	.7	1	.8	1	.5	1	1.2
Unknown.....	2		1		1		0		0		0		0		0	
(b) Extractions:	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
None.....	1,118	74.6	431	77.3	491	73.5	196	71.8	315	77.0	104	80.0	152	77.6	59	71.1
1.....	226	15.1	85	15.2	103	15.4	38	13.9	51	12.5	15	11.5	26	13.3	10	12.1
2.....	74	4.9	27	4.9	30	4.5	17	6.2	21	5.1	10	7.7	5	2.5	6	7.2
3.....	27	1.8	4	.7	15	2.3	8	3.0	9	2.2	1	.8	5	2.5	3	3.6
4.....	15	1.0	3	.5	8	1.2	4	1.5	3	.7	0	0	3	1.6	0	0
5 and over.....	39	2.6	8	1.4	21	3.1	10	3.6	10	2.5	0	0	5	2.5	5	6.0

Probabilities have been calculated to answer the question of whether the distributions are significantly different with respect to color and age. While real differences were found as regards the presence of one or more indications for fillings between the races and within the colored population (see discussion of table 2), it is probable, considering the distribution of the calculated probabilities themselves, that the various pairs of distributions given in the table are not significantly different. It may be said, accordingly, that no matter what

the color or what the age within the limits included in the survey, the frequency of indicated fillings or of indicated extractions varies but little.

*Previous dental treatment as observed.*—The number and percent of white and colored males of the three age groups with specified previous dental treatment are shown in table 4. An examination of this table indicates that the white population was observed to have received relatively more treatment than the colored, and that, in general, the treatment received by both races increases with age. All of the differences between the corresponding age groups of the two races are real, with the exception of the difference associated with observed extracted teeth in the oldest age group. With the exception noted, therefore, there is a race difference with respect to past treatment, the white population having received relatively more treatment than the colored.

TABLE 4.—*Number and percent of white and colored males of different age groups with specified previous dental treatment*

Previous dental treatment	White males				Colored males			
	All ages	16-20	21-25	26-30	All ages	16-20	21-25	26-30
Total examined.....	1, 499	558	668	273	409	130	196	83
Any treatment.....	1, 435 <sup>1</sup>	524 <sup>1</sup>	648 <sup>1</sup>	263 <sup>1</sup>	364 <sup>1</sup>	115	176 <sup>1</sup>	73
Percent.....	96. 2	94. 2	97. 6	97. 0	89. 7	88. 5	91. 2	88. 0
Prophylaxis.....	1, 365 <sup>1</sup>	504 <sup>1</sup>	610 <sup>1</sup>	251 <sup>1</sup>	331 <sup>1</sup>	104	158 <sup>1</sup>	69
Percent.....	91. 5	90. 6	91. 9	92. 6	81. 5	80. 0	81. 9	83. 1
Teeth filled.....	808 <sup>1</sup>	273 <sup>1</sup>	378 <sup>1</sup>	157 <sup>1</sup>	108 <sup>1</sup>	38	44 <sup>1</sup>	26 <sup>1</sup>
Percent.....	54. 2	49. 1	56. 8	57. 9	26. 6	29. 2	22. 7	31. 7
Number of teeth filled.....	2, 730 <sup>10</sup>	901 <sup>1</sup>	1, 255 <sup>1</sup>	574 <sup>1</sup>	227 <sup>1</sup>	102	73 <sup>1</sup>	52 <sup>1</sup>
Number per 100 males.....	183. 3	162. 6	189. 0	211. 8	56. 0	78. 5	37. 8	63. 4
Extracted teeth.....	1, 165 <sup>1</sup>	388 <sup>1</sup>	542 <sup>1</sup>	235	269 <sup>1</sup>	72	130 <sup>1</sup>	67
Percent.....	77. 9	69. 8	81. 3	86. 1	66. 1	55. 4	67. 0	80. 7
Number of extracted teeth.....	4, 659 <sup>1</sup>	1, 152 <sup>1</sup>	2, 097 <sup>1</sup>	1, 410	797 <sup>1</sup>	159 <sup>1</sup>	351 <sup>1</sup>	287 <sup>1</sup>
Number per 100 males.....	311. 8	207. 6	314. 9	516. 5	196. 8	123. 3	180. 9	350. 0

NOTE.—The superscripts indicate the number of persons for which the particular item is unknown.

On the other hand, the increases in the percentages with age in each race are more apparent than real. Only in the matter of extracted teeth are the differences probably real; in the white as well as in the colored population the oldest age group shows a higher percentage with one or more extracted teeth than either the middle or youngest group. As regards previous treatment, therefore, race is of more importance than increasing age; with regard to indications for treatment (table 2), contrariwise, increasing age is of more importance than race. Further comparison discloses the fact that, while the white population had received relatively more treatment than the colored, it continued, in general, to be in need of more treatment.

*Number of observed filled teeth, and of extracted teeth, per person.*—Table 5 shows the white and colored males of the three age-groups

classified according to the number of teeth that had been filled and extracted, respectively, per person. The table indicates, in general, that the whites have smaller percentages of persons than the colored with no teeth filled or no teeth extracted, and that in each race these percentages decrease with age. As in table 3 (indications), but not so uniformly, the 32 distributions behave similarly beginning with a term that is relatively high and with the successive terms decreasing in magnitude, with a few exceptions, as the frequency of filled teeth or extractions increases. Otherwise the two tables contrast remarkably. It was observed above that the distributions of the frequency of indicated fillings and extractions (table 3) probably present no differences with respect to color or age. Table 5, on the other hand, presents both color and age differences.

TABLE 5.—*Distribution of white and colored males of different age groups according to the frequency of (a) teeth filled and (b) extracted teeth*

Number of teeth filled and extracted teeth per person	White males								Colored males							
	All ages		16-20		21-25		26-30		All ages		16-20		21-25		26-30	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total examined....	1,499	100.0	558	100.0	668	100.0	273	100.0	409	100.0	130	100.0	196	100.0	83	100.0
(a) Teeth filled:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
None.....	684	45.9	283	51.1	287	43.2	114	42.1	298	73.6	92	70.7	150	77.7	56	68.3
1.....	232	15.6	79	14.2	110	16.6	43	15.9	56	13.8	15	11.5	29	15.0	12	14.6
2.....	173	11.6	63	11.4	82	12.4	28	10.3	25	6.2	9	6.9	8	4.2	8	9.8
3.....	114	7.7	37	6.7	52	7.8	25	9.2	10	2.5	4	3.2	2	1.1	4	4.9
4.....	91	6.1	32	5.8	42	6.3	17	6.3	7	1.7	6	4.5	1	.5	0	0
5 and over.....	195	13.1	60	10.8	91	13.7	44	16.2	9	2.2	4	3.2	3	1.5	2	2.4
Unknown.....	10	—	4	—	—	—	—	—	—	—	0	—	3	—	1	—
(b) Extracted teeth:	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
None.....	331	22.1	168	30.3	125	18.8	38	13.9	138	34.1	58	45.0	64	33.0	16	19.5
1.....	240	16.1	107	19.3	110	16.5	23	8.4	76	18.8	27	20.9	37	19.0	12	14.6
2.....	245	16.4	97	17.5	113	17.0	35	12.8	72	17.8	25	19.4	38	19.6	9	11.0
3.....	172	11.5	59	10.6	91	13.7	22	8.1	38	9.4	7	5.4	22	11.3	9	11.0
4.....	154	10.3	57	10.3	68	10.2	29	10.6	35	8.6	7	5.4	15	7.7	13	15.9
5.....	104	7.0	26	4.7	50	7.5	28	10.3	18	3.9	3	2.3	8	4.1	5	6.1
6.....	67	4.5	15	2.7	31	4.6	21	7.7	10	2.5	0	0	3	1.6	7	8.5
7.....	48	3.2	8	1.4	20	3.0	20	7.3	4	1.0	0	0	3	1.6	1	1.2
8.....	34	2.3	5	.9	20	3.0	9	3.3	5	1.2	1	.8	3	1.6	1	1.2
9 and over.....	99	6.6	13	2.3	38	5.7	48	17.6	11	2.7	1	.8	1	.5	9	11.0
Unknown.....	5	—	3	—	2	—	0	—	4	—	1	—	2	—	1	—

\* The percents in this line when subtracted from 100.0 give the percents of persons with filled teeth. If the differences do not agree with those recorded in table 4, it is because some of the examinations reported the presence only of filled teeth and not the specific number. The same explanation applies to extracted teeth.

With respect to the distribution of the number of filled teeth per person, each age group of the white population presents a greater percentage of persons than the corresponding age group of the colored population with the higher frequencies. No real differences were found within the races as regards age.

Regarding the number of extracted teeth, the youngest and middle age groups of the whites show a larger percentage with higher frequencies than the corresponding age groups of the colored. Both races show real age increases; the percentages associated with the higher frequencies of extracted teeth in the whites increase with age, and in the colored population there is an increase in passing from the youngest and middle age groups to the oldest group.

In summary, it may be stated, in general, that the white population had received individually more treatment than the colored with respect to either filled teeth or extractions, and that in each population the number of extractions increased with age. It is of interest to note here that in spite of the fact that the whites had received more treatment with respect to either filled teeth or extractions, the needs (table 3) as regards the frequency of fillings or extractions vary but little as between the races.

*Relation of indicated treatment to past treatment.*—The indicated treatment associated with a particular individual may be quantitatively expressed by a single number which is the sum of the number of indicated fillings and the number of indicated extractions as observed in that individual; similarly, past treatment may be represented by a number which is the sum of the number of teeth filled and the number extracted. It has been shown how the 4 components of these 2 sums or indexes behave separately (tables 3 and 5). The behavior of the two indexes individually was also studied with respect to color and age with the aid of tables similar to tables 3 and 5; and since no additional information was elicited, the tables are not included here and no further reference will be made to them.

The question of the relationship between the 2 defined indexes now logically arises; this relationship was studied, in particular, as regards each of the 3 age groups specific for race. Six correlation tables were accordingly made showing for every possible pair of indexes the number of persons associated with each. In the study of such relationships two obvious facts must be borne in mind. These are, first, a certain proportion of individuals has teeth that are inherently immune from caries, and this immunity increases, more or less, with the passage of time; and, second, there is a certain proportion whose teeth are susceptible to caries to such a degree that the number of past treatments may not influence the number of indications for treatment.

Since none of the correlation tables shows an orderliness sufficient to express the relationship between the indexes by means of a mathematical formula, none of the tables is presented. However, it is of no little interest to note that while no functional relationship could be discovered, the tables indicate for the three age groups of each race that persons who have had no past treatment are more likely than not to require no treatment, and that as the frequency of past treatments



increases there is a definite suggestion that the frequency of indications for treatment decreases. The latter is more evident in the white population than in the colored, probably because of the larger number of persons forming the white group and the small number of colored persons with much past treatment.

*Indicated treatments plus past treatments per person.*—Thus far the following four observations have been examined with respect to their frequency: Indicated fillings, indicated extractions, filled teeth, and extracted teeth. These were considered separately, in the form of two summed pairs or indexes, and, finally, the two indexes themselves were compared. The need for a consideration of what may be termed total caries now arises. This requires the adoption of a procedure which eliminates the effects of the activities connected with the presence of dental facilities. Accordingly, a numerical sum, or an index representing both untreated and treated caries, was formed by adding together for each individual examined the number of his indicated fillings, indicated extractions, filled teeth, and extracted teeth. The result of this procedure is given in table 6 for the white and colored males of the three age groups. The percentages are also shown graphically by means of bar diagrams in figure 1.

TABLE 6.—*Distribution of white and colored males of different age groups according to the frequency of untreated and treated caries (fillings indicated plus number of extractions indicated plus number of teeth filled plus number of extracted teeth)*

Untreated plus treated caries per person	White males								Colored males							
	All ages		16-20		21-25		26-30		All ages		16-20		21-25		26-30	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total examined...	1,499	100.0	558	100.0	668	100.0	273	100.0	409	100.0	130	100.0	196	100.0	83	100.0
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
None.....	139	9.4	77	14.0	45	6.8	17	6.3	91	22.6	29	22.5	50	25.9	12	14.8
1.....	108	7.3	46	8.3	49	7.4	13	4.8	56	13.9	23	17.8	24	12.4	9	11.1
2.....	130	8.7	62	11.2	50	7.6	18	6.6	56	13.9	25	19.3	27	14.0	4	5.0
3.....	122	8.2	54	9.8	53	8.0	15	5.6	41	10.1	15	11.6	22	11.4	4	5.0
4.....	153	10.3	71	12.9	72	10.9	10	3.7	33	8.2	11	8.5	16	8.3	6	7.4
5.....	134	9.0	47	8.5	67	10.1	20	7.4	23	5.7	4	3.2	12	6.2	7	8.7
6.....	114	7.7	39	7.1	57	8.6	18	6.6	35	8.7	9	7.0	17	8.8	9	11.1
7.....	85	5.7	35	6.3	40	6.0	10	3.7	21	5.2	7	5.4	8	4.2	6	7.4
8.....	79	5.3	24	4.3	43	6.5	12	4.4	12	3.0	2	1.5	6	3.1	4	5.0
9.....	89	6.0	20	3.6	36	5.4	33	12.2	8	2.0	1	.8	2	1.0	5	6.2
10.....	56	3.8	22	4.0	21	3.2	13	4.8	9	2.2	1	.8	3	1.6	5	6.2
11.....	54	3.6	11	2.0	23	3.5	20	7.4	3	.7	0	0	3	1.6	0	0
12.....	46	3.1	12	2.2	24	3.6	10	3.7	3	.7	0	0	2	1.0	1	1.2
13.....	44	3.0	7	1.3	25	3.8	12	4.4	5	1.2	1	.8	1	.5	3	3.7
14.....	34	2.3	7	1.3	15	2.3	12	4.4	2	.5	0	0	0	0	2	2.4
15.....	18	1.2	8	1.4	5	.7	5	1.9	0	0	0	0	0	0	0	0
16.....	19	1.3	0	0	12	1.8	7	2.6	1	.3	0	0	0	0	1	1.2
17.....	16	1.1	5	.9	5	.7	6	2.2	1	.3	1	.8	0	0	0	0
18.....	10	.7	3	.5	4	.6	3	1.1	0	0	0	0	0	0	0	0
19.....	5	.3	0	0	2	.3	3	1.1	2	.5	0	0	0	0	2	2.4
20 and over.....	30	2.0	2	.4	14	2.2	14	5.1	1	.3	0	0	0	0	1	1.2
Unknown.....	14	-----	6	-----	6	-----	2	-----	6	-----	1	-----	3	-----	2	-----

Consider table 6. Probability tests have been applied to ascertain whether the differences are significant between the corresponding age groups of the two races, and between the age groups within each race,

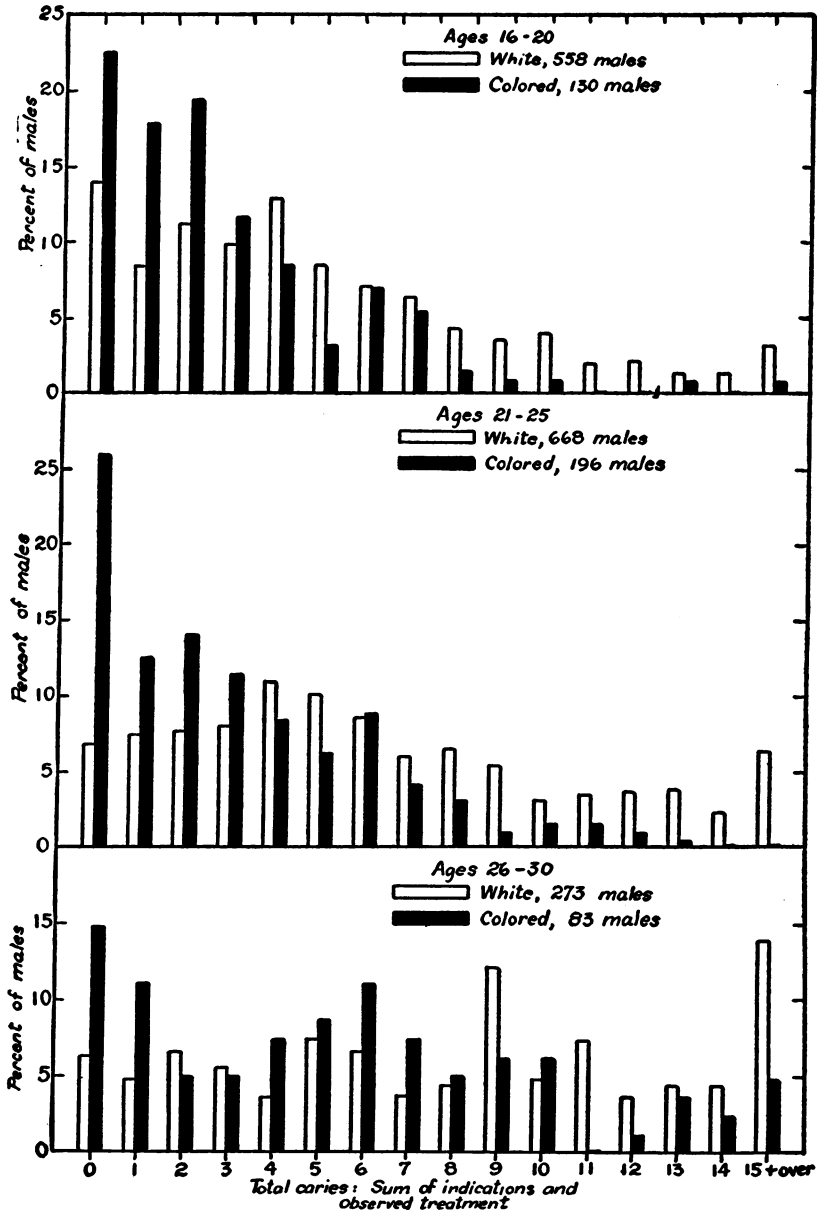


FIGURE 1.—Distribution of white and colored males of three different age groups according to the frequency of untreated and treated caries (number of fillings indicated plus number of extractions indicated plus number of teeth filled plus number of extracted teeth).

with respect to a total caries index of size zero and each of the distributions (1-16) taken as a whole. The percentages of the white males in the 3 age groups with no observed untreated or treated caries

are 14, 7, and 6, respectively; for the colored the corresponding percentages are 23, 26, and 15. The first series of percentages is significantly different from the second, and in the first series the percentage associated with the youngest group is greater than the percentages associated with the middle and oldest groups; no age differences could be found in the colored population. Stated in other words, the white population shows definitely fewer individuals per hundred with no caries than the colored, and this is true for all age groups; in the white population, furthermore, the percentage with no caries decreases in passing from the youngest to either the middle or oldest group, while in the colored population changes in age appear to have no effect on the percentage of individuals without caries.

An examination of the various distributions of table 6 reveals that of the 9 possible comparisons, 3 between the races and 3 within each of the races, 7 present significant differences—the youngest and middle age groups with respect to color, the 3 age groups of the white population with respect to each other, and in the colored population the distribution of the oldest age group is different from either the middle or the youngest group. It follows, therefore, that there is a color difference with respect to the youngest and middle age groups, the whites showing a larger percentage of persons with the higher caries totals than the colored, that in the white population the percentage with the higher caries totals increases with age, and finally, in the colored population the oldest age group presents larger percentages with the higher caries totals than either the middle or youngest group.

The findings of this section may be recapitulated, thus: Color and increasing age are important factors in the incidence of caries, the whites being attacked with greater frequency than the colored, and the percentages with the higher frequencies increasing with age in both races.

#### SUMMARY

The results of the dental examination of 1,908 inmates of the Ohio State Reformatory at Mansfield are reported. The number examined represents 57 percent of the total inmate population. Of those examined, 79 percent are white and 21 percent colored. For the purposes of analysis the races were held separate and divided into 3 age groups, namely, 16–20, 21–25, and 26–30, respectively.

Since the various percentages, and the conclusions derived from them with respect to color and age, are based on data from a unique population, the reader is cautioned not to apply the findings of this paper to white and colored populations in general.

The analysis permits it to be stated, in general, that while the white population had received relatively more dental treatment than the

colored, it continued to be in need of more treatment. The particulars may be briefly summarized as follows:

1. *Indications for dental treatment.*—The white population presented larger percentages than the colored as regards indications for treatment in general, diseased gums, and indications for one or more fillings. Indications for prophylaxis and for one or more extractions and malocclusion showed no race differences. The percentages associated with prophylaxis and diseased gums increased with age in both races.

2. *Number of fillings and number of extractions indicated, per person.*—No differences were found with respect to the frequency of indicated fillings or of indicated extractions with regard to either race or age.

3. *Previous dental treatment.*—The white population presented larger percentages than the colored as regards previous treatment in general, prophylaxis, one or more filled teeth, and one or more extracted teeth. Only in the matter of extracted teeth were the percentages found to increase with age, and this was true for both races.

4. *Number of teeth filled and number of extracted teeth, per person.*—With respect to the higher frequencies of filled teeth and of extracted teeth, the white population showed larger percentages than the colored, the percentages with the higher frequencies of extracted teeth increasing with age in both races.

5. *Relation of indicated treatment (number of fillings plus number of extractions) to past treatment (number of teeth filled plus number extracted).*—In both races and for each age group it was clearly evident that persons who had had no treatment were more likely than not to require no treatment, and that as the treatments performed increased in number there was a definite suggestion that the number of indications for treatment decreased.

6. *Total caries (indicated treatment plus past treatment) per person.*—The white population gave evidence of being attacked with greater frequency by caries than the colored, and the percentages with the higher frequencies increased with age in both races.

#### ACKNOWLEDGMENTS

We are indebted to Dr. J. D. McLeod, institution dentist, for performing the dental examinations and for supplying information concerning their conduct. Thanks are expressed to Director John McSweeney, of the Department of Public Welfare of Ohio, and to Superintendent T. C. Jenkins, of the Ohio State Reformatory, for furnishing details relating to the reformatory and its inmates.

#### REFERENCE

- (1) Jenkins, T. C.: The Ohio State Reformatory. In Ninth Annual Report of the Department of Public Welfare, State of Ohio, for the fiscal year ending December 31, 1930. N. p., n. d. Pp. 588-601.

# SUSCEPTIBILITY OF THE OPOSSUM (*Didelphis virginiana*) TO THE VIRUS OF ENDEMIC TYPHUS FEVER<sup>1</sup>

By GEORGE D. BRIGHAM, Ph. D., *Senior Medical Technician, United States Public Health Service*

Numerous animals have been reported as susceptible to the virus of endemic typhus fever, and to this list is now to be added the opossum.

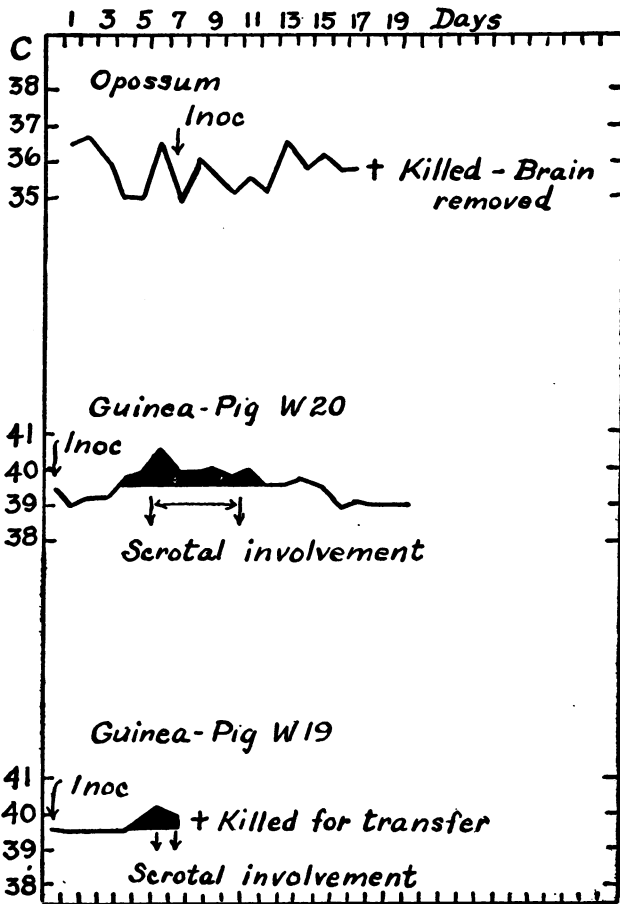


FIGURE 1.—Temperature records of the opossum and the guinea pigs receiving the same inoculum. The shaded areas denote fever. The duration of the scrotal involvement is also shown.

The Wilmington strain of endemic typhus was used in this study as the stock strain. This strain and the experimental strain were propagated by transferring, under the usual aseptic conditions, heart blood and testicular washings from an infected pig which had a typical clinical picture to fresh normal guinea pigs. Blood cultures were

<sup>1</sup> Contribution from the Typhus Research Laboratory of the United States Public Health Service at Mobile, Ala.

made at each transfer in dextrose broth with aerobic and anaerobic conditions fulfilled.

The opossum, a female weighing 1,930 grams, used in this study was trapped about 15 miles north of Mobile, Ala. The temperature of the animal was recorded for 7 days before it was inoculated and thereafter until it was killed. The opossum was inoculated with 6 cc of testicular washings of a typhus-infected guinea pig killed on the 3d day of its fever and the 2d day of scrotal involvement.

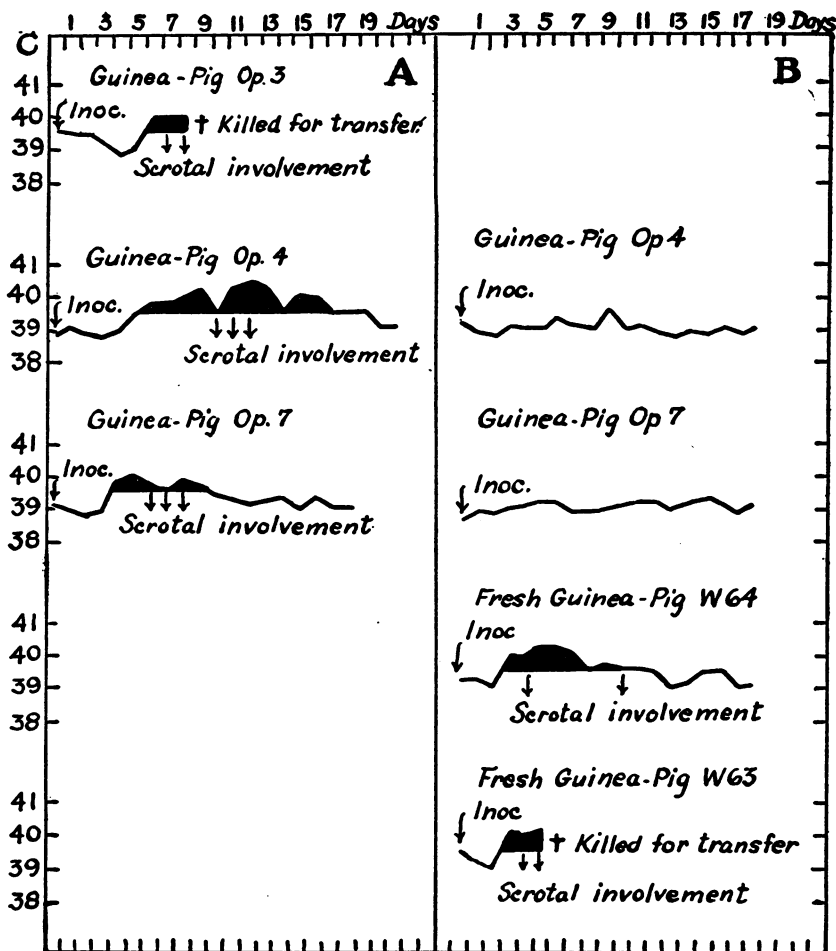


FIGURE 2.—Daily temperature records of (A) guinea pigs 3 and 4, inoculated with emulsified brain material of the opossum, and guinea pig 7, of the next generation; (B) cross immunity test, guinea pigs inoculated with the stock virus, the Wilmington strain.

Figure 1 shows the temperature record of the opossum and of the two guinea pigs which received the same material as the opossum. The virus apparently caused no elevation of temperature in the opossum. Other opossums, both male and female, likewise showed no rise in temperature in similar experiments.

Ten days after inoculation the opossum was killed, and the brain was removed and emulsified with 20 cc of saline. Each of two normal guinea pigs was injected intraperitoneally with 4 cc of this material, which produced a typical mild protein shock that subsided within

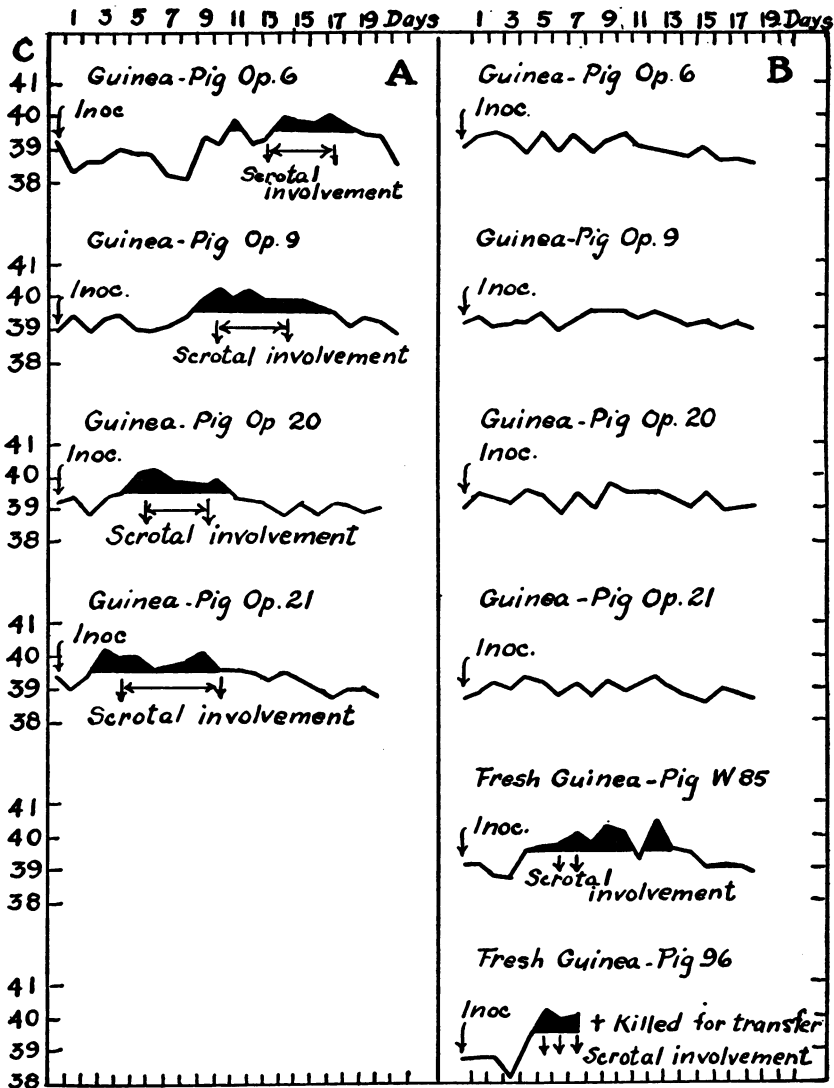


FIGURE 3.—Cross immunity test: Daily temperature records of (A) guinea pigs inoculated with virus recovered from opossum; (B) guinea pigs inoculated with stock virus, the Wilmington strain.

the hour. On gross post-mortem examination all the organs of the opossum were apparently normal.

Figure 2 shows the temperature record of the guinea pigs receiving the emulsified brain material of the opossum, the pig of the next generation, and the cross-immunity tests with the Wilmington strain.

The strain recovered from the brain of the opossum was passed through 20 generations, in each of which 2 guinea pigs received 5 cc each of heart blood and 2 pigs 3 or 4 cc of testicular washings each. All the pigs showed typical temperature rise and scrotal involvement. Routine blood cultures made at the time of the transfers were uniformly negative.

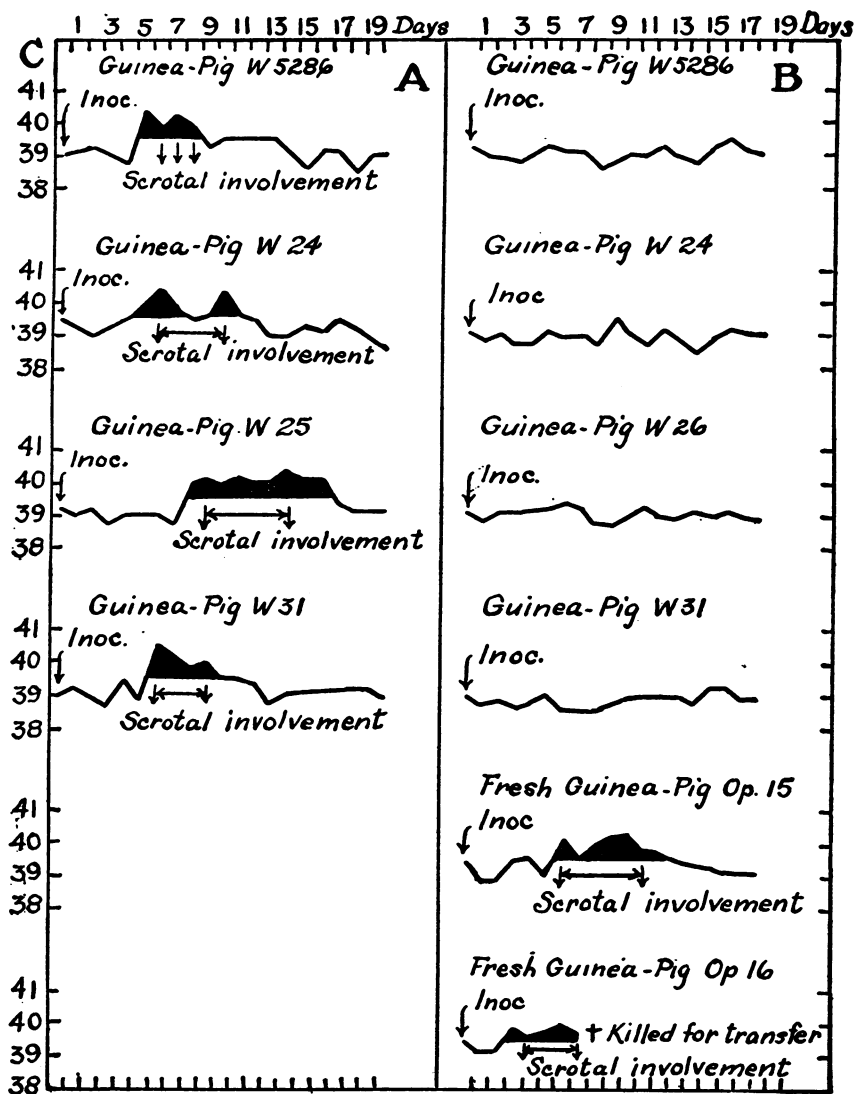


FIGURE 4.—Cross immunity test: Daily temperature records of (A) guinea pigs inoculated with stock virus, the Wilmington strain; (B) guinea pigs inoculated with virus recovered from opossum.

Cross-immunity was found to be complete between the opossum and the Wilmington strains of endemic typhus virus. Figures 3 and 4 illustrate this cross immunity.



On histological examination by Surgeon Lillie, at the National Institute of Health, 8 out of 10 brains from guinea pigs of the second, third, fourth, and sixth generations were found to have the characteristic lesions of typhus fever.

Rabbits were inoculated with the strain of virus recovered from the opossum, and their blood was tested at weekly intervals for the presence of *Proteus* X 19, type O agglutinins.<sup>2</sup> Table 1 shows the agglutination titer produced in the rabbits.

The results reported here indicate that the opossum is susceptible to the virus of endemic typhus fever.

TABLE 1.—*The production of agglutinins for Proteus X 19 (type O) in serums of rabbits following inoculation with endemic typhus virus recovered from the opossum*

Animal	Weeks after inoculation	Dilution of serum <sup>1</sup>				
		40	80	160	320	640
Rabbit no. 2.....	0.....	0	0	0	0	0
	1.....	4	2	0	0	0
	2.....	3	2	0	0	0
	3.....	2	1	0	0	0
	4.....	0	0	0	0	0
	5.....	0	0	0	0	0
Rabbit no. 4.....	0.....	0	0	0	0	0
	1.....	1	0	0	0	0
	2.....	4	4	2	0	0
	3.....	2	1	0	0	0
	4.....	0	0	0	0	0
	5.....	0	0	0	0	0
Rabbit no. 6.....	0.....	0	0	0	0	0
	1.....	1	0	0	0	0
	2.....	4	3	2	1	0
	3.....	3	2	0	0	0
	4.....	2	1	0	0	0
	5.....	1	0	0	0	0

<sup>1</sup> Agglutination is graded as follows: 1, trace; 2, partial; 3, incomplete; 4, complete.

## A STRAIN OF ENDEMIC TYPHUS FEVER ISOLATED FROM THE BRAIN OF A WILD RAT <sup>1</sup>

By GEORGE D. BRIGHAM, Ph.D., *Senior Medical Technician, United States Public Health Service*

In connection with measures instituted to control endemic typhus fever in Alabama, attempts were made to isolate strains of the virus from wild rats trapped at typhus foci, as had been done in Mexico, various places in Europe, and in Savannah, Ga.

In the fall of 1934, in Montgomery, Ala., a case of typhus fever occurred among the personnel of a small grocery store. Two other cases had occurred previously in the neighborhood of this same store. Inspection of the grocery premises showed evidences of rat infestation. Trapping was begun and several specimens of *Rattus norvegicus*

<sup>1</sup> The work reported here was done with the aid of a grant from the Rockefeller Foundation and the assistance of the Health Department of the State of Alabama. The final steps were carried out at the National Institute of Health.

<sup>2</sup> The writer wishes to express his thanks to Mr. C. H. Waite, of the Alabama State Board of Health, for performing the agglutination tests.

were secured. Two of the rats were secured alive and brought to the laboratory and chloroformed, and the fleas were removed. All of the fleas were identified as *Xenopsylla cheopis*. Brains of these two rats were removed under aseptic conditions, both emulsified in the same sterile mortar with 10 cc of sterile saline. Four cc of this material was injected intraperitoneally into a guinea pig. The fleas from these two rats were also pooled and injected into a second guinea pig. The flea-injected guinea pig failed to produce any significant reaction and was discarded. The temperature of the guinea pig receiving the brain material rose to 40.5° C. on the 6th day after inoculation, and continued for 2 days, when scrotal involvement was noted. Transfers of heart blood from this guinea pig were made to two fresh guinea pigs, a white rat, and a rabbit. The testicular washings were also injected into two fresh guinea pigs and a white rat. A blood culture of the killed guinea pig and the cultures made at each subsequent transfer were negative.

The strain was subsequently carried in like manner through guinea pigs for three generations, when it died out in guinea pigs during the illness of one of the laboratory workers with typhus. The strain was later recovered from the brain of the white rat killed 23 days after it had been inoculated with testicular washings from the original guinea pig. The strain was then carried through five transfer generations in guinea pigs, after which it was sent to Surg. R. E. Dyer, at the National Institute of Health, for confirmation.

The majority of the guinea pigs inoculated in Montgomery, Ala., showed typical pictures of clinical typhus, and two rabbits developed agglutinins for *Proteus* X 19, following inoculation with this virus.

At the National Institute of Health the strain was carried through 9 guinea pig generations, 92 guinea pigs being used; 72 of these animals developed clinical endemic typhus with typical scrotal reactions, 18 developed fever alone, and 2 showed no evidence of infection. Rickettsiae were readily found in smears made from the tunica vaginalis of guinea pigs inoculated with this strain, and cross immunity was found to be complete between this strain and known endemic typhus (Wilmington strain) and known epidemic typhus (Breinl strain). Sections were made from the brains of nine guinea pigs from this strain and examined by Surg. R. D. Lillie. Sections from 6 guinea pigs showed characteristic typhus lesions, while the remaining 3 were reported as inconclusive.

## SUMMARY

A strain of endemic typhus virus was isolated from the brain of a wild rat trapped at a typhus focus in Montgomery, Alabama.

(Acknowledgment is made to Passed Asst. Surg. R. E. Butler, United States Public Health Service, for his aid in this work.)

## DEATHS DURING WEEK ENDED MARCH 7, 1936

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Mar. 7, 1936	Correspond- ing week, 1935
Data from 86 large cities of the United States:		
Total deaths.....	10, 136	9, 074
Deaths per 1,000 population, annual basis.....	14. 2	12. 6
Deaths under 1 year of age.....	600	657
Deaths under 1 year of age per 1,000 estimated live births.....	54	60
Deaths per 1,000 population, annual basis, first 10 weeks of year.....	13. 7	12. 9
Data from industrial insurance companies:		
Policies in force.....	68, 069, 308	67, 519, 370
Number of death claims.....	14, 637	15, 131
Death claims per 1,000 policies in force, annual rate.....	11. 2	11. 7
Death claims per 1,000 policies, first 10 weeks of year, annual rate.....	10. 8	10. 9

# PREVALENCE OF DISEASE

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring*

## UNITED STATES

### CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

#### Reports for Weeks Ended Mar. 14, 1936, and Mar. 16, 1935

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Mar. 14, 1936, and Mar. 16, 1935*

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935
<b>New England States:</b>								
Maine.....	3	1	8	15	238	-----	1	0
New Hampshire.....	1	-----	-----	-----	34	14	0	0
Vermont.....	-----	-----	-----	-----	502	1	0	0
Massachusetts.....	3	4	-----	-----	986	338	8	2
Rhode Island.....	-----	-----	4	-----	82	64	1	0
Connecticut.....	2	-----	25	9	88	878	2	0
<b>Middle Atlantic States:</b>								
New York.....	38	25	166	112	2,444	2,627	28	17
New Jersey.....	16	20	97	25	226	1,106	9	2
Pennsylvania.....	40	51	-----	-----	865	5,234	17	3
<b>East North Central States:</b>								
Ohio.....	26	60	130	149	389	1,148	13	13
Indiana.....	19	11	36	20	14	453	2	0
Illinois.....	35	61	31	70	52	3,202	19	25
Michigan.....	4	15	5	5	80	3,447	0	1
Wisconsin.....	2	6	67	77	109	2,068	1	5
<b>West North Central States:</b>								
Minnesota.....	4	1	-----	-----	384	1,599	3	3
Iowa.....	14	10	7	46	4	1,305	5	0
Missouri.....	16	29	837	172	13	892	10	18
North Dakota.....	-----	-----	4	3	1	170	0	0
South Dakota.....	4	8	-----	-----	5	56	0	0
Nebraska.....	9	5	12	-----	25	660	2	4
Kansas.....	13	7	172	14	-----	1,379	3	3
<b>South Atlantic States:</b>								
Delaware.....	-----	-----	-----	-----	61	8	0	0
Maryland.....	2	4	74	34	199	59	13	5
District of Columbia.....	25	6	3	2	63	49	2	9
Virginia.....	16	26	2,230	-----	220	1,081	33	6
West Virginia.....	13	19	192	254	15	506	7	8
North Carolina.....	9	15	365	55	85	699	4	2
South Carolina.....	5	2	873	334	37	46	13	1
Georgia.....	9	11	1,058	225	-----	-----	15	0
Florida.....	12	4	27	29	4	100	3	1
<b>East South Central States:</b>								
Kentucky.....	17	10	93	78	190	605	40	2
Tennessee.....	17	15	416	226	170	115	11	5
Alabama.....	17	10	2,224	308	22	373	2	2
Mississippi.....	9	1	-----	-----	-----	-----	3	1

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Mar. 14, 1936, and Mar. 16, 1935—Continued*

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935
West South Central States:								
Arkansas.....	8	3	383	106	13	37	3	0
Louisiana.....	16	26	111	18	68	241	0	0
Oklahoma.....	8	4	343	193	3	278	5	5
Texas.....	44	46	880	737	475	155	11	4
Mountain States:								
Montana.....	6	8	32	145	13	273	0	1
Idaho.....			6		8	70	0	0
Wyoming.....	4	1			4	100	1	0
Colorado.....	3				23	893	2	0
New Mexico.....	5	7	21	26	32	35	2	3
Arizona.....	6	1	316	53	57	38	1	2
Utah.....					5	19	1	0
Pacific States:								
Washington.....	1	4	5	1	257	221	6	0
Oregon.....			218	83	385	168	1	2
California.....	35	38	1,022	215	2,676	885	9	4
Total.....	536	579	12,393	3,744	11,626	33,695	312	159
First 11 weeks of year.....	7,002	8,195	76,150	86,302	80,967	242,912	2,343	1,320

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935
New England States:								
Maine.....	0	0	12	15	0	0	0	2
New Hampshire.....	1	0	11	20	0	0	0	0
Vermont.....	0	0	20	20	0	0	0	0
Massachusetts.....	0	0	301	277	0	0	2	1
Rhode Island.....	0	0	28	22	0	0	0	0
Connecticut.....	1	0	150	95	0	0	1	0
Middle Atlantic States:								
New York.....	3	0	1,326	1,102	0	0	16	7
New Jersey.....	0	0	653	190	0	0	1	5
Pennsylvania.....	1	0	533	643	0	0	6	5
East North Central States:								
Ohio.....	0	0	445	1,034	0	0	2	1
Indiana.....	0	0	236	212	4	0	1	0
Illinois.....	3	1	882	1,227	13	1	8	12
Michigan.....	3	0	384	427	2	0	3	0
Wisconsin.....	0	2	584	523	15	26	0	1
West North Central States:								
Minnesota.....	0	1	435	187	1	13	1	0
Iowa.....	0	0	233	83	11	0	1	1
Missouri.....	1	1	216	87	8	4	1	1
North Dakota.....	0	0	66	105	2	0	0	1
South Dakota.....	0	0	73	10	35	0	0	0
Nebraska.....	1	1	189	57	32	41	0	1
Kansas.....	1	0	347	84	79	8	1	0
South Atlantic States:								
Delaware.....	0	0	4	27	0	0	0	0
Maryland.....	0	0	87	95	0	0	1	0
District of Columbia.....	0	1	24	100	0	0	0	0
Virginia.....	0	0	57	85	0	0	5	3
West Virginia.....	0	0	75	126	0	0	1	3
North Carolina.....	0	1	45	33	0	0	4	0
South Carolina.....	2	0	1	4	4	0	0	0
Georgia.....	0	0	34	10	0	2	0	0
Florida.....	0	0	10	9	0	0	0	6

See footnotes at end of table.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Mar. 14, 1936, and Mar. 16, 1935—Continued*

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935	Week ended Mar. 14, 1936	Week ended Mar. 16, 1935
<b>East South Central States:</b>								
Kentucky.....	0	1	50	24	0	0	2	3
Tennessee.....	0	0	50	33	0	0	3	2
Alabama <sup>1</sup> .....	1	0	17	13	0	2	0	1
Mississippi <sup>2</sup> .....	0	0	16	6	0	1	3	2
<b>West South Central States:</b>								
Arkansas.....	1	0	15	6	2	1	2	0
Louisiana.....	0	1	14	30	7	1	9	8
Oklahoma <sup>4</sup> .....	0	0	25	18	1	0	2	2
Texas <sup>3</sup> .....	2	1	94	84	5	7	3	12
<b>Mountain States:</b>								
Montana.....	0	0	175	11	9	0	1	0
Idaho.....	0	0	38	5	3	0	1	0
Wyoming.....	0	0	159	8	0	7	0	0
Colorado.....	0	0	158	307	6	6	0	1
New Mexico.....	0	0	74	7	0	4	2	2
Arizona.....	0	0	20	24	1	1	1	0
Utah <sup>2</sup> .....	0	0	102	94	1	7	0	0
<b>Pacific States:</b>								
Washington.....	1	0	85	52	41	25	2	2
Oregon.....	0	1	25	66	1	4	0	3
California.....	4	9	390	269	0	8	5	4
<b>Total.....</b>	<b>26</b>	<b>21</b>	<b>9,018</b>	<b>7,966</b>	<b>283</b>	<b>169</b>	<b>91</b>	<b>92</b>
<b>First 11 weeks of year.....</b>	<b>230</b>	<b>294</b>	<b>84,058</b>	<b>75,781</b>	<b>2,513</b>	<b>2,113</b>	<b>1,136</b>	<b>1,438</b>

<sup>1</sup> New York City only.

<sup>2</sup> Week ended earlier than Saturday.

<sup>3</sup> Typhus fever, week ended March 14, 1936, 11 cases, as follows: South Carolina, 2; Georgia, 6; Alabama, 1; Texas, 2.

<sup>4</sup> Exclusive of Oklahoma City and Tulsa.

## SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week.

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Mala- ria	Mea- sles	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>December 1935</i>										
Puerto Rico.....		75	37	1,370	23	3	0		0	25
<i>February 1936</i>										
Florida.....	4	23	106	104	12	1	0	22	0	10
Michigan.....	12	34	25	1	170		2	1,215	7	9
Nebraska.....	9	22	5		151		0	899	183	3
New Mexico.....	1	27	33		37	5	0	295	0	9
Ohio.....	35	135	323		965		2	1,660	2	12
Pennsylvania.....	22	168			2,145		4	1,982	0	18
Wyoming.....		10			19		0	561	22	0

December 1935		February 1936—Continued		February 1936—Continued	
Puerto Rico:	Cases	Epidemic encephalitis:	Cases	Scabies:	Cases
Chicken pox.....	3	Michigan.....	2	Michigan.....	4
Dysentery.....	12	Ohio.....	2	Septic sore throat:	
Filariasis.....	1	Pennsylvania.....	2	Michigan.....	63
Leprosy.....	1	Food poisoning:		Nebraska.....	6
Mumps.....	37	New Mexico.....	1	New Mexico.....	5
Ophthalmia neonatorum.....	7	German measles:		Ohio.....	183
Puerperal septicemia.....	3	Michigan.....	136	Wyoming.....	9
Tetanus.....	6	New Mexico.....	18	Trachoma:	
Tetanus, infantile.....	3	Ohio.....	99	Michigan.....	1
Trachoma.....	1	Pennsylvania.....	981	Ohio.....	1
Whooping cough.....	6	Impetigo contagiosa:		Trichonosis:	
		Michigan.....	11	Ohio.....	7
		Lead poisoning:		Pennsylvania.....	1
		Michigan.....	1	Tularaemia:	
		Ohio.....	10	New Mexico.....	1
		Mumps:		Ohio.....	1
Anthrax:		Florida.....	185	Typhus fever:	
Pennsylvania.....	2	Michigan.....	1,256	Florida.....	3
Chicken pox:		Nebraska.....	232	Undulant fever:	
Florida.....	100	New Mexico.....	584	Michigan.....	5
Michigan.....	1,702	Ohio.....	1,327	Ohio.....	10
Nebraska.....	250	Pennsylvania.....	2,886	Pennsylvania.....	3
New Mexico.....	138	Wyoming.....	83	Vincent's infection:	
Ohio.....	1,582	Ophthalmia neonatorum:		Michigan.....	22
Pennsylvania.....	3,585	New Mexico.....	1	Whooping cough:	
Wyoming.....	35	Ohio.....	53	Florida.....	25
Diarrhea and enteritis:		Pennsylvania.....	11	Michigan.....	1,104
Ohio (under 2 years)....	12	Paratyphoid fever:		Nebraska.....	53
Dysentery:		Michigan.....	1	New Mexico.....	54
Florida.....	2	Ohio.....	1	Ohio.....	710
Michigan (bacillary)....	3	Puerperal septicemia:		Pennsylvania.....	984
Ohio (amoebic).....	1	New Mexico.....	6	Wyoming.....	12
		Ohio.....	1		

### CASES OF VENEREAL DISEASES REPORTED FOR JANUARY 1936

These reports are published monthly for the information of health officers in order to furnish current data as to the prevalence of the venereal diseases. The figures are taken from reports received from State and city health officers. They are preliminary and are therefore subject to correction. It is hoped that the publication of these reports will stimulate more complete reporting of these diseases.

#### Reports from States

	Syphilis		Gonorrhea	
	Cases reported during month	Monthly case rates per 10,000 population	Cases reported during month	Monthly case rates per 10,000 population
Alabama.....	641	2.37	281	1.04
Arizona.....	70	1.53	112	2.45
Arkansas <sup>1</sup> .....	42	.22	57	.30
California.....	1,572	2.55	1,667	2.71
Colorado <sup>2</sup> .....	207	1.25	134	.81
Connecticut.....	109	4.50	16	.66
Delaware.....	132	2.66	125	2.52
District of Columbia.....	351	2.23	132	.84
Florida.....	909	3.12	456	1.57
Georgia.....	0	0	0	0
Idaho.....	1,408	1.79	1,153	1.46
Illinois.....	131	.40	104	.31
Indiana.....	121	.49	174	.70
Iowa <sup>1</sup> .....				
Kansas <sup>3</sup> .....	182	.68	237	.89
Kentucky.....	367	1.69	215	.99
Louisiana.....	36	.45	50	.62
Maine.....	765	4.58	200	1.20
Maryland.....	443	1.02	557	1.28
Massachusetts.....	425	.83	474	.93
Michigan.....	281	1.08	283	1.09
Minnesota.....	1,168	5.68	1,752	8.52
Mississippi.....	604	1.64	515	1.40
Missouri.....	55	1.02	107	1.99
Montana <sup>1</sup> .....				
Nebraska <sup>3</sup> .....				
Nevada <sup>2</sup> .....	17	.36	13	.28
New Hampshire.....	435	1.03	245	.58
New Jersey.....	67	1.53	41	.94
New Mexico.....				
New York <sup>2</sup> .....	1,124	3.41	543	1.64
North Carolina.....	28	.41	52	.76
North Dakota.....	493	.72	290	.42
Ohio.....				

See footnotes at end of table.

## Reports from States—Continued

	Syphilis		Gonorrhea	
	Cases reported during month	Monthly case rates per 10,000 population	Cases reported during month	Monthly case rates per 10,000 population
Oklahoma <sup>1</sup>	173	.70	149	.60
Oregon	63	.64	112	1.13
Pennsylvania	388	.39	189	.19
Rhode Island	105	1.49	43	.61
South Carolina <sup>1</sup>	189	1.08	239	1.37
South Dakota	3	.04	33	.47
Tennessee	787	2.94	392	1.46
Texas	242	.40	100	.16
Utah <sup>1</sup>				
Vermont	19	.53	32	.89
Virginia	430	1.76	216	.88
Washington	137	.85	207	1.29
West Virginia	196	1.10	132	.74
Wisconsin <sup>4</sup>	25	.08	93	.31
Wyoming <sup>1</sup>				
Total	14,940	1.33	11,922	1.10

See footnotes at end of table.

## Reports from cities of 200,000 population or over

Akron, Ohio <sup>1</sup>				
Atlanta, Ga. <sup>1</sup>				
Baltimore, Md.	491	5.83	122	1.48
Birmingham, Ala.	108	3.81	68	2.41
Boston, Mass.	443	5.60	557	7.04
Buffalo, N. Y. <sup>1</sup>				
Chicago, Ill. <sup>1</sup>				
Cincinnati, Ohio	52	1.12	53	1.14
Cleveland, Ohio <sup>1</sup>				
Columbus, Ohio	38	1.24	0	0
Dallas, Tex.	91	3.14	30	1.04
Dayton, Ohio	24	1.14	0	0
Denver, Colo. <sup>1</sup>				
Detroit, Mich.	227	1.31	263	1.52
Houston, Tex. <sup>1</sup>				
Indianapolis, Ind. <sup>1</sup>				
Jersey City, N. J.	2	.62	3	.93
Kansas City, Mo.	61	1.45	13	.31
Los Angeles, Calif.	523	3.65	518	3.62
Louisville, Ky. <sup>1</sup>				
Memphis, Tenn.	196	7.34	71	2.66
Milwaukee, Wis. <sup>1</sup>				
Minneapolis, Minn.	86	1.77	109	2.24
Newark, N. J.	186	4.01	87	1.88
New Orleans, La. <sup>1</sup>				
New York, N. Y.	5,894	8.07	1,404	1.92
Oakland, Calif.	25	.82	34	1.12
Omaha, Nebr.	11	.50	13	.59
Philadelphia, Pa.	260	1.31	61	.31
Pittsburgh, Pa.	46	.67	22	.32
Portland, Oreg.	51	1.62	80	2.55
Providence, R. I.	44	1.70	23	.89
Rochester, N. Y. <sup>1</sup>				
St. Louis, Mo.	760	9.09	530	6.34
St. Paul, Minn.	30	1.06	50	1.77
San Antonio, Tex. <sup>1</sup>				
San Francisco, Calif.	149	2.22	149	2.22
Seattle, Wash.	90	2.37	120	3.16
Syracuse, N. Y.	124	5.69	44	2.02
Toledo, Ohio <sup>1</sup>				
Washington, D. C. <sup>1</sup>	132	2.66	125	2.52

<sup>1</sup> Incomplete.<sup>2</sup> Not reporting.<sup>3</sup> No report for current month.<sup>4</sup> Only cases of syphilis in the infectious stage are reported.<sup>5</sup> Reported by Social Hygiene Clinic.



## WEEKLY REPORTS FROM CITIES

City reports for week ended Mar. 7, 1936

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross-section of the current urban incidence of the communicable diseases listed in the table. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference.

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Maine:											
Portland.....	0	-----	0	2	3	2	0	0	0	5	21
New Hampshire:											
Concord.....	0	-----	0	0	1	1	0	0	0	0	11
Manchester.....	0	-----	2	0	0	2	0	1	0	0	24
Nashua.....	0	-----		24		0	0		0	0	
Vermont:											
Barre.....	0	-----	0	0	0	2	0	0	0	0	1
Burlington.....	0	-----	0	4	0	2	0		0	0	6
Rutland.....	0	-----	0	15	1	2	0	0	0	0	5
Massachusetts:											
Boston.....	2	-----	1	254	35	85	0	14	0	28	219
Fall River.....	0	-----	0	0	3	9	0	4	0	0	34
Springfield.....	0	-----	0	1	5	7	0	2	0	1	43
Worcester.....	0	-----	0	0	12	22	0	1	0	15	69
Rhode Island:											
Pawtucket.....	0	-----	0	0	0	1	0	0	0	0	14
Providence.....	0	-----	1	12	12	14	0	1	0	0	61
Connecticut:											
Bridgeport.....	1	-----	0	9	2	7	0	1	0	2	27
Hartford.....	0	-----	1	0	3	7	0	0	0	0	46
New Haven.....	0	-----	6	3	0	4	1	0	0	40	48
New York:											
Buffalo.....	0	-----	0	29	15	63	0	8	0	19	154
New York.....	32	109	28	1,335	291	723	0	103	6	68	1,968
Rochester.....	1	-----	0	1	11	10	0	1	0	3	106
Syracuse.....	0	-----	1	87	6	0	0	2	0	17	57
New Jersey:											
Camden.....	1	-----	1	0	0	10	0	0	0	0	37
Newark.....	0	-----	45	3	5	10	244	7	0	15	139
Trenton.....	0	-----	0	0	6	4	0	1	0	7	45
Pennsylvania:											
Philadelphia.....	2	-----	17	12	384	77	75	0	29	3	621
Pittsburgh.....	5	-----	3	22	43	84	0	5	0	21	202
Reading.....	0	-----	0	8	3	4	0	2	0	3	34
Ohio:											
Cincinnati.....	7	-----	2	5	21	16	0	11	0	1	176
Cleveland.....	5	-----	39	3	91	26	50	0	10	63	267
Columbus.....	1	-----	5	1	15	25	0	6	0	2	112
Toledo.....	1	-----	2	35	9	3	0	2	0	11	86
Indiana:											
Anderson.....	0	-----	0	0	1	4	0	0	0	2	6
Fort Wayne.....	3	-----	0	0	2	19	0	0	0	0	28
Indianapolis.....	7	-----	0	3	10	49	0	6	1	18	108
Muncie.....	0	-----	0	0	3	1	0	1	0	0	17
South Bend.....	0	-----	0	1	1	4	0	1	0	4	18
Terre Haute.....	0	-----	0	0	2	2	0	0	0	0	14
Illinois:											
Alton.....	1	-----	0	0	2	3	0	0	0	0	9
Chicago.....	6	-----	21	9	15	69	269	1	41	1	799
Elgin.....	0	-----	0	0	5	4	0	0	0	0	10
Moline.....	0	-----	0	0	2	27	0	0	0	0	9
Springfield.....	2	-----	0	1	8	24	0	0	0	1	36
Michigan:											
Detroit.....	1	-----	4	2	21	39	146	1	14	1	271
Flint.....	0	-----	0	0	3	11	0	0	0	34	29
Grand Rapids.....	0	-----	0	9	5	9	0	0	0	3	39
Wisconsin:											
Kenosha.....	0	-----	0	1	0	4	0	0	0	8	10
Milwaukee.....	0	-----	1	7	8	104	0	3	0	58	91
Racine.....	0	-----	0	3	1	22	0	0	0	6	12
Superior.....	0	-----	0	0	0	7	0	0	0	0	7
Minnesota:											
Duluth.....	0	-----	0	0	5	3	0	1	0	14	26
Minneapolis.....	1	-----	1	119	12	129	0	4	0	7	118
St. Paul.....	0	-----	0	100	13	48	0	3	0	3	77
Iowa:											
Cedar Rapids.....	0	-----	0	1	0	2	0	-----	0	2	-----
Davenport.....	0	-----	-----	0	-----	16	0	-----	0	0	-----
Des Moines.....	2	-----	-----	0	-----	8	0	-----	0	0	37
Sioux City.....	0	-----	-----	0	-----	16	4	-----	0	0	-----
Waterloo.....	0	-----	-----	0	-----	1	0	-----	0	0	-----

## City reports for week ended Mar. 7, 1936—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Missouri:											
Kansas City.....	2	43	6	2	26	58	0	9	9	1	137
St. Joseph.....	1	-----	2	1	24	3	1	1	0	0	67
St. Louis.....	7	9	1	2	24	60	0	9	0	3	252
North Dakota:											
Fargo.....	0	-----	0	1	1	3	0	0	0	0	7
Grand Forks.....	0	-----	-----	0	-----	0	1	-----	0	0	-----
Minot.....	0	-----	0	0	0	4	0	0	0	0	2
South Dakota:											
Aberdeen.....	0	-----	0	1	-----	0	0	-----	0	0	-----
Nebraska:											
Omaha.....	0	-----	0	0	18	118	8	3	0	5	80
Kansas:											
Lawrence.....	0	35	0	1	0	3	0	0	0	0	-----
Wichita.....	0	2	2	3	2	32	1	0	0	4	43
Delaware:											
Wilmington.....	3	-----	0	2	6	3	0	0	0	7	29
Maryland:											
Baltimore.....	2	43	3	47	40	45	0	11	1	34	253
Cumberland.....	1	-----	0	0	0	2	0	0	0	0	16
Frederick.....	0	-----	0	0	1	0	0	0	0	0	4
District of Col.:											
Washington.....	19	4	3	16	26	34	0	21	0	7	192
Virginia:											
Lynchburg.....	3	-----	0	3	3	0	0	0	0	5	16
Norfolk.....	1	41	0	0	6	1	0	0	0	5	36
Richmond.....	0	-----	5	0	12	29	0	3	0	0	82
Roanoke.....	0	-----	0	0	4	0	0	1	0	0	20
West Virginia:											
Charleston.....	0	3	0	0	3	0	0	0	0	0	20
Huntington.....	2	-----	-----	0	-----	2	0	-----	0	0	-----
Wheeling.....	1	-----	0	2	2	0	0	0	0	0	21
North Carolina:											
Gastonia.....	0	1	-----	0	0	0	0	0	0	0	1
Raleigh.....	0	-----	0	0	2	0	0	0	0	3	16
Wilmington.....	0	6	0	0	2	0	0	0	0	0	14
Winston-Salem.....	0	-----	1	170	1	2	0	1	0	0	13
South Carolina:											
Charleston.....	0	150	4	0	10	1	0	0	0	1	43
Columbia.....	0	-----	0	0	3	0	0	1	0	0	13
Florence.....	1	-----	0	0	0	0	0	0	0	0	2
Greenville.....	0	-----	0	23	3	1	0	0	0	0	11
Georgia:											
Atlanta.....	0	133	12	1	25	7	0	8	0	1	124
Brunswick.....	0	2	2	0	3	0	0	0	0	0	8
Savannah.....	1	92	5	0	6	0	0	2	0	0	49
Florida:											
Miami.....	1	2	0	0	1	0	0	5	0	6	43
Tampa.....	1	2	0	0	3	1	0	0	0	0	23
Kentucky:											
Ashland.....	0	-----	0	0	1	0	0	0	0	0	1
Covington.....	0	-----	0	1	3	1	0	1	0	0	20
Lexington.....	0	7	0	0	5	2	0	2	0	0	24
Louisville.....	2	12	1	4	11	28	0	2	0	9	80
Tennessee:											
Knoxville.....	0	3	1	30	3	0	0	2	0	0	25
Memphis.....	3	-----	2	1	16	8	0	9	2	1	122
Nashville.....	0	-----	2	2	7	0	0	0	0	2	54
Alabama:											
Birmingham.....	2	188	13	0	23	1	0	5	0	0	110
Mobile.....	2	25	4	0	6	0	0	0	0	0	31
Montgomery.....	0	9	-----	0	-----	0	0	-----	0	0	-----
Arkansas:											
Fort Smith.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Little Rock.....	0	-----	0	0	8	2	0	0	0	0	8
Louisiana:											
Lake Charles.....	0	-----	1	0	0	0	0	1	0	0	7
New Orleans.....	13	19	8	34	27	10	0	12	0	50	187
Shreveport.....	1	-----	0	16	13	4	0	3	0	0	51
Oklahoma:											
Oklahoma City.....	1	14	0	2	12	12	0	1	0	0	48
Texas:											
Dallas.....	8	9	9	122	14	3	0	3	0	1	91
Fort Worth.....	0	-----	1	0	8	10	0	2	0	0	44
Galveston.....	5	-----	0	21	6	2	0	2	0	0	20
Houston.....	6	-----	6	8	22	1	0	5	0	0	92
San Antonio.....	3	-----	10	0	17	0	0	11	0	0	103

## City reports for week ended Mar. 7, 1936—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Montana:											
Billings.....	1	5	0	0	1	1	0	0	0	0	3
Great Falls.....	0	-----	0	0	1	10	0	0	0	2	11
Helena.....	0	-----	0	0	0	0	0	0	0	0	6
Missoula.....	0	-----	0	0	2	5	0	0	0	0	10
Idaho:											
Boise.....	0	-----	0	12	1	4	0	1	0	0	9
Colorado:											
Colorado Springs.....	0	-----	0	0	3	4	1	3	0	0	22
Denver.....	6	-----	7	7	12	27	0	4	0	9	97
Pueblo.....	0	-----	0	0	3	35	0	0	0	8	17
New Mexico:											
Albuquerque.....	0	1	1	1	0	25	0	2	0	2	12
Utah:											
Salt Lake City.....	0	-----	1	4	3	73	1	2	0	7	35
Nevada:											
Reno.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Washington:											
Seattle.....	0	-----	6	97	20	24	3	6	0	4	138
Spokane.....	0	2	2	2	10	21	0	0	0	6	35
Tacoma.....	0	-----	0	40	7	2	0	2	0	1	35
Oregon:											
Portland.....	0	16	4	222	17	10	0	2	0	2	128
Salem.....	1	13	-----	4	-----	1	0	-----	0	2	-----
California:											
Los Angeles.....	7	140	3	546	38	88	0	22	0	27	354
Sacramento.....	2	5	2	13	5	4	0	2	0	10	36
San Francisco.....	0	18	1	612	7	89	0	10	0	39	186

State and city	Meningococcus meningitis		Polio-myelitis cases	State and city	Meningococcus meningitis		Polio-myelitis cases
	Cases	Deaths			Cases	Deaths	
Massachusetts:				Nebraska:			
Boston.....	4	5	0	Omaha.....	0	1	0
Rhode Island:				Maryland:			
Providence.....	1	0	0	Baltimore.....	8	1	0
New York:				District of Columbia:			
New York.....	29	6	0	Washington.....	3	0	0
New Jersey:				Virginia:			
Newark.....	3	2	0	Norfolk.....	1	0	0
Pennsylvania:				Richmond.....	2	1	0
Philadelphia.....	3	1	0	West Virginia:			
Pittsburgh.....	4	1	0	Wheeling.....	0	1	0
Reading.....	2	1	0	South Carolina:			
Ohio:				Charleston.....	10	2	0
Cincinnati.....	3	2	0	Georgia:			
Cleveland.....	2	0	0	Atlanta.....	9	1	0
Toledo.....	1	0	0	Florida:			
Indiana:				Miami.....	1	1	0
Indianapolis.....	0	1	0	Kentucky:			
Illinois:				Louisville.....	3	0	0
Chicago.....	9	4	0	Tennessee:			
Springfield.....	3	1	0	Memphis.....	0	3	0
Michigan:				Nashville.....	1	0	0
Detroit.....	0	0	2	Louisiana:			
Wisconsin:				Shreveport.....	0	6	0
Milwaukee.....	1	0	0	Oklahoma:			
Minnesota:				Oklahoma City.....	2	0	0
Minneapolis.....	1	0	0	Texas:			
Iowa:				Houston.....	3	2	0
Sioux City.....	1	0	0	Washington:			
Missouri:				Seattle.....	1	2	0
St. Joseph.....	4	0	0	California:			
St. Louis.....	2	0	0	Los Angeles.....	5	1	1
				San Francisco.....	1	1	0

*Epidemic encephalitis*.—Cases: New York, 5; Newark, 1; Philadelphia, 1; Columbus, 1; Toledo, 1.  
*Polio*.—Cases: Chicago, 2; Detroit, 1; Atlanta, 2; Savannah, 1; Birmingham, 2; Dallas, 1.

# FOREIGN AND INSULAR

## CZECHOSLOVAKIA

*Communicable diseases—December 1935.*—During the month of December 1935, certain communicable diseases were reported in Czechoslovakia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	3	-----	Malaria.....	8	-----
Cerebrospinal meningitis.....	15	7	Paratyphoid fever.....	3	-----
Chickenpox.....	498	-----	Poliomyelitis.....	13	4
Diphtheria.....	3, 219	222	Puerperal fever.....	47	19
Dysentery.....	68	18	Scarlet fever.....	3, 323	42
Influenza.....	122	2	Trachoma.....	87	-----
Lethargic encephalitis.....	3	1	Typhoid fever.....	470	43

# CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Health, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following table must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

## CHOLERA

[C indicates cases; D, deaths; P, present]

Place	Week ended—																
	Sept. 1-26, 1935	Sept. 29-Oct. 30, 1935	December 1935				January 1936			February 1936							
			7	14	21	28	4	11	18	25	1	8	15	22	29		
India.....	57,713	51,707	20,882	25,638	3,355	4,020	1,619	2,021	3,695	3,674							
Assam.....	29,945	24,303	15,039	13,350	1,850	2,401	839	1,079	1,873	2,014							
Bombay Presidency.....	1,706	24,585	164	356	204	154	211	138	72	77	120	49	35	21	11	7	9
Bombay Presidency.....	1,871	286	79	356	103	104	109	80	46	39	62	20	19	19	141	58	
Bombay Presidency.....	6,236	7,779	3,318	1,892	387	357	148	49	74	149	157	79	39	58			
Bombay Presidency.....	2,687	3,328	1,510	1,877	183	165	67	30	44	75	79	39	58				
Bombay Presidency.....	6	3		11													
Calcutta.....	216	119	90	144	24	20	38	12	15	28	57	40	47	58	61	79	135
Central Provinces and Berar.....	7,243	11,774	5,775	1,350	47	40	6	5	13	1					8	18	30
Chittagong.....				1													
Cochin.....	1		9														
Madras Presidency.....	7,487	8,185	4,648	5,280		1,311	1,004	540	1,583	186							
Madras Presidency.....	3,249	3,482	2,114	2,527		625	454	257	786	94							
Madras Presidency.....	137	31	12	12	3	6	4	1	2	2	3	4	11	28	18	3	10
Madras Presidency.....	57	15	1	4	4	2	1				1	2	6	6	8	4	2
Moulmein.....	1																
Negapatam.....																	
Northwest Frontier Province.....																	
Punjab.....	80	338	12														
Rangoon.....	36	174	11														
Vizagapatam.....	516	302	154														
India (French):.....																	
Chanderagor.....	1																
Karikal.....																	
Pondichery.....	16	1															
Indochina (see also table below): Pnom- Penh.....	39	83	16	5													

† Imported.



Place	September 1935			October 1935			November 1935			December 1935			January 1936		
	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-31
Indochina (French) (see also table above):															
Cambodia :					1				1				1		1
Cochinchina :					1				1				1		1
		1			1										2
		1			1										2

: Suspected.

: Reports incomplete.













	124	290	289	146	174	1353	8	125	470
Nigeria.....	C								
Niger Territory. (See table below.)									
Nyasaland. (See table below.)							750		
Oman: Sharjah and Pirato Const.									
Peru. (See table below.)									
Poland.....	1			1	5		2	1	
Portugal (see also table below): Lisbon	2	2	3						
Salvador. (See table below.)									
Saudi Arabia.....	344	288	110	222	188	178	31		
Sierra Leone.....	3	2	7		2				
Spain.....	13	12	7	1			3	1	
Spain: Settlements: Singapore.....	12	1							
Sudan (Anglo-Egyptian).....	7			2			3		
Syria, Tripoli.....			1						
Turkey. (See table below.)									
Union of Socialist Soviet Republics. (See table below.)									

\* For 2 weeks.

\* For 3 weeks.

\* Imported.

On vessels:

S. S. <i>Englistan</i> at Rangoon from Gopalpore.....	1 case.	July 30, 1935	On vessels—Continued.		S. S. <i>Ekma</i> at Rangoon from Calcutta.....	1 case.	Dec. 10, 1935
S. S. <i>Hong Keng</i> at Singapore from Amoy.....	2 cases.	Aug. 1, 1935			S. S. <i>Cape St. Francis</i> at Rangoon from Calcutta.....	1 case.	Dec. 17, 1935
S. S. <i>Barenfels</i> at Gibraltar.....	1 case.	Aug. 23, 1935			S. S. <i>Bankura</i> at Karachi.....	1 case.	Jan. 4, 1936
S. S. <i>Talamba</i> at Rangoon from Madras.....	1 case.	Sept. 9, 1935			S. S. <i>Jalgaon</i> at Rangoon from Aracan.....	1 case.	Jan. 5, 1936
S. S. <i>Ethiopia</i> at Rangoon from Madras.....	1 case.	Oct. 4, 1935			S. S. <i>Matia</i> at Suez from Calcutta.....	1 case.	Jan. 21, 1936

Place	Aug- ust 1935	Sep- tem- ber 1935	Octo- ber 1935	No- vem- ber 1935	De- cem- ber 1935	Jan- uary 1936
Belgian Congo.....	261	303	248	38		
Bolivia.....	30	57	23	43		
China: Manchuria—Harbin.....				48		
Chosen.....	32	16	53	11		
Dahomey.....	2	3	31	18		
France.....	1	6	16	7		
Guatemala.....		4		1		
Indochina (see also table above).	138	103	98	66		9
Mexico (see also table above):	30	16	12	10		
Guatemala State.....	2			3		
Leon.....	2					
Jalisco State.....	1					
Guadalajara.....	1					
Mexico, D. F.....	35					
Mexico City.....	31	2	2			
Oaxaca State.....	23					
Mexico (see also table above)—Con. Puebla State.....						
Puebla.....	1					
San Luis Potosi State.....	5					
San Luis Potosi.....	5					
Vera Cruz State.....	3					
Vera Cruz.....	1					
Morocco.....						
Mozambique.....	2					
Niger Territory.....	209					
Nyasaland.....	11					
Peru.....	154					
Portugal (see also table above).....						
Salvador.....	2					
Turkey.....						
Union of Socialist Soviet Repub- lics.....	128	47				

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

## TYPHUS FEVER

[C indicates cases; D, deaths; P, present]

Place	July 28- Aug. 31, 1935	Sept. 1-28, 1935	Sept. 29- Oct. 28, 1935	Week ended—															
				November 1935						December 1935			January 1936			February 1936			
				2	9	16	23	30	7	14	21	28	4	11	18	25	1	8	15
Algeria:																			
Algers Department.....	0	1	1	1												1	3	3	6
Algers.....	0																		
Constantine Department.....	0	3	4	5												3	18	4	5
Bone.....	0	2	2																
Constantine.....	0	1	1	1												2	1		
Oran Department.....	0																		
Australia:																			
Queensland.....	0	1																	
Sydney.....	0							1											
Belgian Congo.....	0			1															
Bolivia. (See table below.)																			
Bulgaria.....	0		1																
Chile.....	0	397	285	472															
Concepticon.....	0	52	32	21															
Santiago.....	0	245	172	333															
Valparaiso.....	0	8	24	26	2	17		12	6	15	10	6	3	2		7	6	8	5
China:																			
Canton.....	0																		
Hankow.....	0	1	1	3		2													
Harbin.....	0			1		1													
Hong Kong.....	0		1																
Nanking.....	0																		
Shanghai.....	0	1							1	1	1	1							
South Manchuria Railway Zone.....	0		2				4												
Tientsin.....	0					1													
Tsingtao.....	0	6	7							3									
Chosen. (See table below.)																			
Czechoslovakia. (See table below.)																			
Egypt:																			
Alexandria.....	0																		
Asyut Province.....	0	4		1					1							1			5
Behaira Province.....	0	9	2	10		5	6		8		4				22	6	14	16	52
Beni-Suef Province.....	0	1	1																
Cairo.....	0	1	1													1	3	3	

Dakshin Province.....	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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<sup>1</sup> For 2 weeks.

<sup>2</sup> A report dated Jan. 20, 1936, states that there were 305 cases of typhus fever with 58 deaths in Santiago Province, Chile, from Nov. 2-16, 1935.

<sup>3</sup> Includes imported cases.

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

## TYPHUS FEVER—Continued

Place	August 1935	September 1935	October 1935	November 1935	December 1935	January 1936	Place	August 1935	September 1935	October 1935	November 1935	December 1935	January 1936
Bolivia.....	150	140	88	134	168	135	Mexico—Continued						
China: Manchuria—Harbin.....	---	---	---	3	---	---	San Luis Potosi State.....	D	3	---	---	---	---
Chosen.....	31	17	20	30	---	---	San Luis Potosi.....	C	1	---	---	---	---
Czechoslovakia.....	3	3	12	---	---	---	Sonora State.....	C	4	---	---	---	---
France.....	1	---	---	---	---	---	Vera Cruz State.....	C	7	---	---	---	---
Greece.....	1	4	6	4	9	---	Vera Cruz.....	C	2	---	---	---	---
Guatemala.....	24	43	18	26	7	9	Morocco.....	C	12	3	8	13	45
Mexico (see also table above):							Panama Canal Zone.....	C	---	---	---	1	---
Coahuila State.....	1	---	---	---	---	---	Peru.....	C	3	41	5	1	---
Guatemala State.....	7	---	---	---	---	---	Portugal.....	C	---	3	2	---	---
Leon.....	6	---	---	---	---	---	Rumania.....	C	36	26	37	210	---
Jalisco State.....	8	---	---	---	---	---	Turkey.....	C	34	10	13	35	---
Guadalajara.....	1	---	---	---	---	---	Istanbul.....	C	---	---	---	---	2
Mexico State.....	15	---	---	---	---	---	Union of Socialist Soviet Republics.....	C	2, 191	2, 205	---	---	---
Mexico, D. F.....	159	---	---	---	---	---	Union of South Africa:						
Mexico City.....	155	---	---	---	---	---	Cape Province.....	C	97	55	66	79	76
Nayarit State.....	6	---	---	---	---	---	Natal.....	C	4	---	---	6	---
Oaxaca State.....	6	---	---	---	---	---	Orange Free State.....	C	37	10	23	18	4
Puebla State.....	9	---	---	---	---	---	Transvaal.....	C	36	12	2	25	12
Puebla.....	5	---	---	---	---	---	Yugoslavia.....	C	31	11	6	10	131
Queretaro State.....	5	---	---	---	---	---							



# YELLOW FEVER

[C indicates cases; D, deaths; P, present]

Place	July 28- Aug. 31, 1935	Sept. 1-28, 1935	Sept. 29- Oct. 26, 1935	Week ended—																
				November 1935					December 1935					January 1936					February 1936	
				2	9	16	23	30	7	14	21	28	4	11	18	25	1	8		
Brazil: 1																				
Bahia State.....																				
Matto Grosso State 1																				
Minas Geraes State 1	9																			
D																				
Para State.....																				
Parana State. 1																				
Sao Paulo State 1	1																			
Colombia: 1																				
Intendencia of Meta.....	1	1																		
Acacias.....	1																			
Restrepo.....																				
Gold Coast: 1																				
Bawku.....																				
Cape Coast.....	1																			
Kumasi. 1																				
Tamale.....																				
Ivory Coast: 1																				
Abidjan.....																				
Sassandra.....																				
Senegal: 1																				
Dakar.....																				
Kolda. 1																				
M' Bake.....																				
Sudan (French): Koutiala.....	1																			

1 Yellow fever has also been reported in Brazil as follows: Matto Grosso State, week ended Feb. 29, 1936, 1 case, 1 death; Minas Geraes State, week ended Feb. 15, 1936, 2 cases, 2 deaths; Parana State, week ended Feb. 15, 1 case, 1 death, Feb. 22, 4 cases, 4 deaths, Feb. 29, 2 cases, 2 deaths; Sao Paulo State, week ended Feb. 15, 1936, 2 cases, 2 deaths, Feb. 22, 1 case, 1 death, Feb. 29, 1 case, 1 death.

2 During the week ended Feb. 29, 1936, 1 case of yellow fever with 1 death was reported at Kumasi, Gold Coast.

3 Suspected.

4 The case reported at Kolda, Senegal, as yellow fever, during the week ended Feb. 1, 1936, and published in PUBLIC HEALTH REPORTS on pages 180 and 240 was not yellow fever.

X