L. & M.
2,000—13-9-98.

Local & Munl. (1898) Departmen

MISCELLANEOUS.

G.O., No. 752P

DATED 4-8-98

[Despatch Abstract.]

Plague bacillus in Nature Recording
letter from the Sanitary Commissioner
forwarding the opinion of
M. Haffkine on Dr Lawrie's method
of discovering the plague bacillus
in the dust of floors

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Local & Munl. (1898) Department.

CURRENT No. 138

From *The Sanitary Commissioner*

Order *No. 752 P. mis. d. 4-8-98*

Recorded

4.8.98

No.

Dated 30.7.1898

Received 1.8.1898

Registered

Enclosures *4*

Spare copies.

SUBJECT.

Regarding the identification of the plague bacillus

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

900—27-4-98.

No. 1889

Office of Sanitary Commissioner,

Madras, 30th July 1898.

Dear Mr. Tremenheere,

In reply to your D.O. No. 36 P. dated 28th June 1898, I have to inform you that I addressed the following Officers regarding the identification of the Plague Bacillus.

Surgeon-Major Bannerman,
Surgeon-Lt-Col, Lawrie,
Prof: W. M. Haffkine.

Dr. Bannerman whose letter (private) I have mislaid, does

I have not addressed the Surgeon-General as I do not consider Lawrie's method possible.

Yours Sincerely
H.Thomson

P.S. All Correspondence returned

No. 1478/S.

Office of Sanitary Commissioner,
Fort St.George, 4th July 1898.

From,

Surgeon Major H.Thomson,M.B.,D.P.H.,
Ag. Sanitary Commissioner for
M a d r a s.

To,

Surgeon Lt.Col.E.Lawrie,M.B.,
Plague Commissioner,
Hyderabad,Deccan.

Sir,

I have the honour to request that you will kindly forward me detailed information regarding the procedure you pursue in the detection of plague bacillus in the dust of floors and wall scrapings of infected houses.

2. In several G.O's. and other papers,received in this office relating to your own and Mr.Stevens' experience and work in the detection of plague infections you mention Gentian Violet Stain and Gram's solution I will be glad to learn in what way they are useful in the identification of the plague bacillus. Gentian violet will stain other bacilli besides plague as will Grams solution discolour them.

As this matter is of vital importance and therefore urgent I request you will kindly send me a reply at your earliest convenience.

I have etc.
(Sd).H.Thomson,M.B.,
Surgeon Major,
Ag. Sanitary Commissioner.

(True Copy).
H.Thomson
Surgeon Major,
Ag.Sany.Commr,Madras.

D.No.1538 D.1898

From,

Surgeon Lieut.Colonel E. Lawrie,M.B.,

H y d e r a b a d.

To,

Surgeon Major H.Thomson,M.B.,D.P.H.,

Ag. Sanitary Commissioner,

M a d r a s.

Dated Hyderabad Residency, July 6th 1898.

Sir,

I beg to acknowledge the receipt of your No. 1478/S dated 4th July/98 requesting me to forward detailed information regarding the procedure pursued in the detection of the plague bacillus.

2. In reply I have the honour to state that the bacillus was in the first place detected by the microscope in stained preparations from the soil. These were verified by inoculations in rats;and subsequently by cultivation in sterilized media and inoculation through a series of five rabbits making ten generations of the bacillus.

3. If you could arrange to visit Hyderabad so as to arrive here next Saturday evening the 9th Instant,Mr. Stevens the Dy.Plague Commissioner would be happy to show you all our methods on the 10th Instant,and the Government of H. H. the Nizam will receive you as their guest.

I have etc.

(Sd). E. Lawrie,

Surgeon Lt.Col,

Plague Commissioner.

(True Copy).

N Thomson

Surgeon Major,

Ag.Sany.Commissioner,Madras.

2/38 1898

D.O.

Office of Sanitary Commissioner,
Madras, 8th July 1898.

To,

Mon. Haffkine,
Khosroo Lodge, Nesbid Lane,
Mazgaon, Bombay.

Dear Sir,

The Government of Madras having directed me to fully investigate the question whether the Plague Bacillus can be identified in earth in the manner described by Dr. Lawrie and Mr. Stevens of Hyderabad, I shall be obliged by your kindly favouring me with your opinion.

I forward herewith a copy of a letter I addressed to Dr. Lawrie and a copy of his reply which leaves me as far from a solution of my difficulty as before I addressed him.

As far as I am aware the following is the method pursued by Dr. Lawrie in detecting, on the spot, whether or not a house is infected with plague. A little of the dust from the floor or scraping from the wall of the house is taken and shaken up with water, a cover slip is smeared with this and allowed to dry, then stained with gentian violet and examined with a microscope. The specimen is then treated with Grams' solution and seemingly by the above process one is enabled to diagnose the presence of the Plague Bacillus.

The detection of Plague Bacillus according to Dr. Lawrie, being so easy and simple, the Government has asked me, if this be really so, to draw up detailed instructions for the guidance of District Medical and Sanitary Officers.

I am at a loss to understand how Dr. Lawrie can obtain the accurate results recorded by him; he states in G.O.NO.329 P dated 14th April 1898 page 6, para 14.—"It is the work of some 35 minutes to find and stain the Plague Bacillus in one infected house.

There are so many Bacilli to be found in dust that the difficulty is to tell one bacillus from another. Excuse my troubling you but an early answer will greatly oblige.

(True Copy)
H. Thomson
Surgeon Major,
Ag:Sanitary Commissioner, Madras.

Yours truly,
(Signed). H. Thomson,
Surgeon Major,
Ag:Sanitary Commissioner for Madras.

No. 398 of 1898.

From,

W.M.Haffkine,Esq.,C.I.E.,

To,

The Sanitary Commissioner,Madras.

Plague Research Laboratory,Mazgaon:

Bombay, 22nd July 1898.

Sir,

With reference to your Demi Official of the 8th Instant forwarding copy of correspondence with Dr.Lawrie, I have the honour to state that no method which could be placed at the disposal of the Executive Officers working in the plague -stricken localities has been worked out as yet for detecting the plague bacilli in nature; and that,up to now, there is no instance in the whole domain of bacteriology of a microbe being discoverable,outside a patient's body or its products,by means of staining or any other manipulation feasible in 35 minutes.

The para 2 of Surgeon Lt.Col.Lawrie's letter about the bacillus being"detected by the microscope in stained preparations from the soil. These were verified by inoculations in rats;and subsequently by cultivation in sterilized media and inoculation through a series of five rabbits making ten generations of the bacillus",contains ofcourse mentioning of the methods used in searching for pathogenic microbes,as well as of things superfluous and useless for that;but the application of these methods,first of all,requires many days, and is so cumbersome that they cannot be carried out by Executive officers;secondly,up to now,these or similar methods are absolutely necessary for identifying a microbe,and without them the staining of dust or of scrapings can be of no significance whatever;and,thirdly,before entrusting any method to Executive officers,it is essential that at least one bacteriologist should have succeeded in demonstrating its efficacy. This,however,has not happened up to now. In the

year

year 1896/97, Mr. Hankin, whose special share of work on the Bubonic Plague Research Committee was to trace the plague microbes in nature, has, for over 12 months, worked upon different objects and materials taken from most infected places, and tried a large number of methods for detecting the plague microbes there, without having in a single instance succeeded in demonstrating satisfactorily the probability of plague microbes being present there; and it is absolutely certain that in the few cases which he very kindly submitted to my examination, and where he believed to have hit upon microbes of a suspicious nature, those were not plague microbes.

In the former publications of Dr. Yersin, from China, there is a statement of his having detected plague microbes in the soil and flies. When questioned, however, in Bombay as to the manner in which he ascertained the plague nature of the microbes there detected, he was unable to give a satisfactory reply.

There are up to now only two pathogenic microbes which have been identified in nature, outside the patient's body, with a conclusive amount of certainty. These are: the bacillus of anthrax detected by Pasteur on the surface of graves where anthrax cattle had been buried; and Nicolaiers tetanus bacillus, detected in horse dung and garden soil by Kitasato.

As to the identity of the microbes found in water and food stuff, and believed to have been microbes of cholera and typhoid, though these discoveries have been announced on very many occasions, in none, up to now, was the result found to be beyond dispute. In all the four instances, however, complicated processes of examination are required, lasting, as regards time, for at least a few days.

It is possible that by a method, which almost unavoidably must find itself amongst those enumerated by Dr. Lawrie (staining; microscopic examination; inoculating into rats, into rabbits; cultivating in sterile media), the plague microbe will indeed be identified in nature; and this Laboratory is making efforts in that direction; but for a considerable time to come one is not likely to have a method by which the disinfecting or lime-washing officer might be able to recognize on the spot the bacillus which he has been sent to kill.

I have etc.

(Sd). W.M. Haffkine.

(True Copy)

W Thomson

Surgeon Major,

5

D.O.

My dear Thompson

I send you an extract from ~~which you will~~ a Communication received from Prof Haffkine. As it appears that the typhoid bacillus cannot be discovered for certain in water, it seems useless to send any more samples of water to Mr Hankin for analysis.

Yours.

4/8/10

Let them [illegible]

[G. / 25]
1,000—16-3-98.

LOCAL AND MUNICIPAL DEPARTMENT.

D.O. ~~C.~~ No. 138/98

SUBJECT.

Dr Lawrie's alleged discovery of the Plague bacillus in the dust of floors

FOR ORDERS.

It looks as though we must give up hope of using Dr Lawrie's process

H.T.
1.8.98.

J.P.-H.

Yes - But this does not lessen the importance of the excavation of the floors, houses believed to be infected & the burning of the materials -

You will see that Dr Haffkine says that in no case yet known has the detection in nature of the typhoid bacillus been beyond dispute - This being so, it was of little use, I fear, to send water from there for bacteriological exam^n & the inconclusive nature of the reports obtained is accounted for.

HS
3/8/98

D.O. No 836 P. dy 28-6-1898

My dear Thomson

The Hon'ble Sir Henry Bliss desires you to investigate fully the question whether the plague bacillus can be identified in earth in the manner described by Dr Lawie and Mr Stevens of Hyderabad. If the question can be answered in the affirmative, will you kindly draw up in communication with the Surgeon General detailed instructions for the guidance of the district medical officers? I send you a copy of the Hon'ble member's note of the 25-6-98, and also the following papers in original (to be returned).

(1) G.O. No 329 P dy 14-4-98
(2) G.O. No 465 P dy 13-5-98
(3) G.O. No 595 P dy 18-6-98
(4) 'Bacteriology made Easy', page 32 Indian Engineering dy 28-5-98.

2. Mr. Stevens in his letters No 421 & 435 mentioned in G.O. No $\frac{595\,P}{18\text{-}6\text{-}98}$ refers to 'Grams Solution' and 'Gentian violet'. Will you

Yours

3297 d 414-6-98

kindly explain what these preparations are and how they are useful in the identification of the plague bacillus?

From adrs

Yours sincerely

Army
28/6/98

28/6/98

Despt
28-6-1898

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, No. , DATED

to C. No.

OVERNMENT	A	A	A	A	A	A	A
GOVERNMENT.							
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