NO. 20.-OCTOBER, 1904; DEPARTMENT OF THE INTERIOR, BUREAU OF GOVERNMENT LABORATORIES; PARTS I-V

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649312788

No. 20.-October, 1904; Department of the Interior, Bureau of Government Laboratories; Parts I-V by Various

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

www.triestepublishing.com

VARIOUS

NO. 20.-OCTOBER, 1904; DEPARTMENT OF THE INTERIOR, BUREAU OF GOVERNMENT LABORATORIES; PARTS I-V

Trieste

Missing Page

PRETIOUS PUBLICATIONS OF THE BUREAU OF GOVERNMENT LABORATORIES.

No. 1, 1902, Biological Laboratory.—Preliminary Report of the Appearance in the Philippine Islands of a Disease Clinically Resembling Glanders. By R. P. Strong, M. D.

No. 2, 1902, Chemical Laboratory.—The Preparation of Benzoyl-Acetyl Peroxide and Its Use as an Intestinal Antiseptic in Cholera and Dysentery. By Paul C. Freer, M. D., Ph. D.

No. 3, 1903, Biological Laboratory.—A Preliminary Report on Trypanosomiasis of Horses in the Philippine Islands. By W. E. Musgrave, M. D., and Norman E. Williamson.

No. 4, 1903, Serum Laboratory.—Preliminary Report on the Study of Rinderpest of Cattle and Carabaos in the Philippine Islands. By James W. Jobling, M. D.

No. 5, 1903, Biological Laboratory.—Trypanosoma and Trypanosomiasis, with Specia Reference to Surra in the Philippine Islands. By W. E. Musgrave, M. D., and Moses T. Clegg.

No. 6, 1903.—I. New or Noteworthy Philippine Plants. II. The American Element in the Philippine Flora. By Elmer D. Merrill, Botanist.

No. 7, 1903, Chemical Laboratory.—The Gutta Percha and Rubber of the Philippine Islands. By Peneyer L. Sherman, Jr., Ph. D.

No. 8, 1903.—A Dictionary of the Plant Names of the Philippine Islands. By Elmer D. Merrill, Botanist.

No. 9, 1903, Biological Laboratory.—A Report on Hemorrhagic Septicæmia in Animals in the Philippine Islands. By Paul G. Woolley, M. D., and Jas. W. Jobling, M. D.

No. 10, 1903, Biological Laboratory.—A Report on Two Cases of a Peculiar Form of Hand Infection Due to an Organism Resembling the Koch-Weeks Bacillus. By John R. McDill, M. D., and Wm. B. Wherry, M. D.

No. 11, 1903, Biological Laboratory.—Entomological Division, Bulletin No. 1. Preliminary Bulletin on Insects of the Cacao. Prepared especially for the benefit of farmers. By Chas. S. Banks, Entomologist.

No. 12, 1903, Biological Laboratory.—Report of Some Pulmonary Lesions Produced by the Bacillus of Hemorrhagic Septicæmia of Carabaos. By Paul G. Woolley, M. D.

No. 13, 1904, Biological Laboratory.—Fatal Infection by a Hitherto Undescribed Chromogenic Bacterium: Bacillus Aureus Fœtidus. By Maximilian Herzog, M. D.

No. 14, 1904.—Serum Laboratory: Texas Fever in the Philippine Islands and the Far East. By Jas. W. Jobling, M. D., and Paul G. Woolley, M. D. *Biological Laboratory:* The Australian Tick (Boophilus Australis Fuller) in the Philippine Islands. By Charles S. Banks Entomologist.

No. 15, 1904, Biological and Serum Laboratories.—Report on Bacillus Violaceus Manilæ, a Pathogenic Micro-Organism. By Paul G. Woolley, M. D.

No. 16, 1904, Biological Laboratory.—Protective Inoculation Against Asiatic Cholera: An Experimental Study. By Richard P. Strong, M. D.

No. 17, 1904.—New or Noteworthy Philippine Plants. By Elmer D. Merrill, Botanist.

No. 18, 1904, Biological Laboratory.—I. Amebas: Their Cultivation and Etiologic Significance. By W. E. Musgrave, M. D., and Moses T. Clegg. II. The Treatment of Intestinal Amebiasis (Amebic Dysentery) in the Tropics. By W. E. Musgrave, M. D.

No. 19, 1904, Biological Laboratory.—Some Observations on the Biology of the Cholera Spirillum. By W. B. Wherry, M. D.

[In press. Edition of 2,000.]

No. 21, 1904, Biological Laboratory.—Some Questions Relating to the Virulence of Micro-Organisms with Particular Reference to Their Immunizing Powers. By Richard P. Strong M. D.

(Continued on third page of cover.)

No. 20.—OCTOBER, 1904

DEPARTMENT OF THE INTERIOR

BUREAU OF GOVERNMENT LABORATORIES

BIOLOGICAL LABORATORY

I. DOES LATENT OR DORMANT PLAGUE EXIST WHERE THE DISEASE IS ENDEMIC

By MAXIMILIAN HERZOG, M. D., AND CHARLES B. HARE

SERUM LABORATORY

II. BRONCHO-PNEUMONIA OF CATTLE: ITS ASSOCIATION WITH B. BOVISEPTICUS

By PAUL G. WOOLLEY, M. D., AND WALTER SORRELL, D. V. S.

III. REPORT ON PINTO (PAÑO BLANCO)

By PAUL G. WOOLLEY, M. D.

CHEMICAL LABORATORY

IV. NOTES ON ANALYSIS OF THE WATER FROM THE MANILA WATER SUPPLY

By CHARLES L. BLISS

SERUM LABORATORY

V. FRAMBŒSIA: ITS OCCURRENCE IN NATIVES OF THE PHILIPPINE ISLANDS.

By PAUL G. WOOLLEY, M. D.

MANILA
BUREAU OF PUBLIC PRINTING
1904
28994

LETTERS OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF GOVERNMENT LABORATORIES,
OFFICE OF THE SUPERINTENDENT OF LABORATORIES,
Manila, P. I., September 30, 1904.

SIR: I have the honor to transmit herewith, for publication in one bulletin of the Bureau of Government Laboratories, the following: I. Does Latent or Dormant Plague Exist Where the Disease is Endemic? II. Broncho-Pneumonia of Cattle: Its Association with *B. boviseplicus*. III. Pinto (Paño Blanco). IV. Notes on Analysis of the Water from the Manila Water Supply. V. Frambœsia: Its Occurrence in Natives of the Philippine Islands.

I am, very respectfully,

PAUL C. FREER,
Superintendent of Government Laboratories.

HON. DEAN C. WORCESTER,
Secretary of the Interior, Manila, P. I.

DEPARTMENT OF THE INTERIOR,
BUREAU OF GOVERNMENT LABORATORIES,
BIOLOGICAL LABORATORY, OFFICE OF THE DIRECTOR,
Manila, P. I., July 15, 1904.

SIR: I have the honor to transmit herewith and to recommend for publication a paper entitled "Does Latent or Dormant Plague Exist Where the Disease is Endemic?" by Dr. Maximilian Herzog, Pathologist Biological Laboratory, and Mr. Chas. B. Hare, Assistant Bacteriologist.

Very respectfully,

RICHARD P. STRONG,
Director Biological Laboratory.

DR. PAUL C. FREER,
Superintendent Government Laboratories, Manila, P. I.

PART I.

DOES LATENT OR DORMANT PLAGUE EXIST WHERE THE DISEASE IS ENDEMIC?

By MAXIMILIAN HERZOG, M. D., *Pathologist Biological Laboratory*, and CHAS. B. HARE, *Assistant Bacteriologist*.

On August 21, 1903, Mr. Henry A. Blake, (1) governor of Hongkong, addressed a communication to the secretary of state for the colonies, entitled "Bubonic Plague in Hongkong: Memorandum by His Excellency the Governor, on the Result of the Treatment of Patients in Their own Houses and in Local Hospitals during the Epidemic of 1903." The writer of the memorandum makes some very startling assertions as to the danger of the spread of plague by animals of the most varied kind, and also comes to the amazing conclusion that there existed in Hongkong during the period of time intervening between June 23 and July 10, 1903, between 8,000 and 9,000 or more individuals among the native population in which plague bacilli were present in the circulating blood in spite of the absence of all clinical symptoms of the disease. The governor calls this condition "latent plague" and considers it a potent factor in the spread of the infection, and a factor which can not of course be reached by the ordinary methods employed to limit the spread of and possibly to suppress plague.

Fully to understand the statements of the governor of Hongkong, it will be well to quote a few paragraphs from his memorandum, which read as follows:

We have from Professor Simpson's report evidence that pigs, calves, sheep, monkeys, geese, ducks, turkeys, hens, pigeons, and rats are susceptible to plague, which may be contracted by food or by inoculation direct,

or by means of suctorial insects. To this list the examination mentioned above adds bugs, spiders, flies, and cockroaches. I may add that quails kept in the market for sale were also found to be infected. In paragraph 22, page 100, Professor Simpson points out that domestic animals suffer from chronic plague, and surmises that this is probably one of the bridges by which the interval of the attacks in man is connected. I have for a considerable time been of the opinion that man himself is subject to chronic plague, which may either pass away after a considerable time or continue dormant over the winter months, regaining activity with the annual movement of spring, when the curve of the epidemic is almost constant. This opinion was strengthened by the fact that in August, 1899, the body of a Chinese lift man at Queen's buildings who was accidently killed when attempting to enter the lift while in motion was found to contain plague bacilli. A similar result followed the examination of a man who on the 4th of March, 1901, was killed at Tai Koo Sugar Works by a bag of sugar falling on his head from a height of 20 feet; while on the 2d of April, 1903, in the body of the chief steward of a ship lying in the dock, found floating with a large wound on the head, were also found plague bacilli. Early in June several men from H. M. S. *Ocean* were sent to the naval hospital, suffering from pneumonia; on examination of their blood seven were found to be suffering from mild cases of plague. In like manner two officers of the Sherwood Foresters who developed feverish symptoms were, on having their blood examined, found to be similarly affected. In the "Boletin Official" of Macao, containing the report on the plague epidemic, 1895, Dr. Gomes de Silva, the medical officer who published the report in 1895, stated that during the height of the epidemic he had discovered plague bacilli in his own excreta.

(21) In June I directed Inspector Gidley to obtain as many specimens of blood as possible, on slides secured from the Government bacteriologist. He obtained 110 specimens from men, women, and children taken at random. These slides were sent to Dr. Hunter for examination, who reported that in five slides he found plague bacilli, and in seven slides bacilli were present in considerable numbers, some of which showed bipolar staining. They were not sufficiently distinctive, however, to be regarded as *B. pestis*. These slides were obtained between the 23d of June and 10th of July. Since they were obtained there were but three cases of plague in the district, from none of which a specimen of blood was taken.

(22) I am not unmindful of the fact that these reports were the result of microscopic examination only. But the examination was the same as that on which a great many of the cases treated in the Kennedy Town Hospital were sent to that institution where their cases ran the usual course of plague invasion.

(23) Now, putting aside the seven doubtful slides, it will be seen that of those people examined at random 4.54 per cent were found to be infected with plague, though to all appearances perfectly healthy. If we exclude all the well-to-do, and take the working coolie population alone, they

probably number 180,000, and, assuming the same average amount of infection, there are among that class alone 8,172 persons at present infected in Hongkong. If even a quarter of that average be accepted for the 105,000 inhabitants of the superior class the number of infected will be increased to 9,634. In Appendix G[1] will be found the number of rats examined in each month of the present year with the proportion of the infected rats. I am afraid that the incidents mentioned in paragraph 5 weakens deduction as regards Hongkong. But, from whatever source the rats were procured, the proportion of infection in June was 9 per cent or 4.46 per cent more than the percentage of the slides examined, or, if doubtful cases mentioned by Dr. Hunter be included, 1 per cent less, while in January the proportion falls to 0.8 per cent. This being so, with the complete circle of vermin, insects, food, rats, domestic animals, and man all infected in possibly similar—possibly different—proportion, it appears to me unsound to concentrate attention upon the rat as the principal means of bridging over the dormant season.

It appears that Governor Blake, after writing the above, felt the great danger of coming forward with so sweeping an assertion, and in the introduction to his memorandum he himself makes an appeal for a more through scientific investigation of the hypothesis of the existence of latent or dormant plague among the natives of countries where this disease is endemic. He says:

My hypothesis in paragraph 23 may not bear the light of scientific investigation, and, as the hypothesis of a layman, may not carry much weight, but I venture to submit that it is worthy of scientific inquiry, for while a timely glass of water may prevent a great conflagration, and plague at its first introduction may be stamped out by immediate segregation and thorough disinfection, its endemicity once established this is no longer practicable, and, if the hypothesis of dormant or chronic plague in man be ultimately proved to be correct, it is difficult to see how quarantine for even ten days can prevent its annual recurrence, or how any practicable examination of departing passengers can prevent its export from the plague center and possible dissemination elsewhere if suitable conditions for its propagation be present. What the remedy or what the necessary precaution, I leave it for scientific men to determine, but if my hypothesis results in a wider radius of investigation the experiment will not have been useless.

THE RESULT OF BLOOD EXAMINATIONS IN CASES OF PLAGUE.

It is, of course, obvious to any one versed in examinations of this nature that a diagnosis of plague can not be made by a microscopic examination of the blood. Such an examination may possibly be

[1] Omitted in this bulletin.