

The only change produced in the leptospira medium is a very delicate grayish, often minutely granular, appearance of the surface layer. The zone in which growth occurs gradually becomes evident as a faint gray haze, which, within 10 to 14 days, extends as far as a centimeter below the surface and resembles the appearance of growth of the leptospiras on this medium. The colonies on the surface of blood slants are almost microscopic during the first few days and appear translucent, slightly raised and discrete. They may attain a diameter of 0.2 to 0.5 mm., while still remaining discrete and practically colorless, reaching their maximum size in about three days at 37° C. and seven days at 28° C.

*Bartonella bacilliformis* is a motile organism but this characteristic is lost as the cultures grow older. In form it is minute and pleomorphic, ranging from round, oval and lanceolate to rod shapes. There is a marked tendency for the individuals to clump together in masses of hundreds and perhaps thousands. The organism is Gram negative and stains reddish violet with Giemsa's solution. It varies in width from less than 0.2 to 0.5  $\mu$  and in length from 0.3 to 2.5  $\mu$ .

Inoculation of cultures of *Bartonella bacilliformis* into young rhesus monkeys induced intermittent fever lasting many weeks. Typical endoglobular forms of *Bartonella bacilliformis* have been demonstrated in the red blood corpuscles of these animals. Intradermic inoculation of the culture into the eyebrows gave rise to highly vascular nodules, resembling the nodules of experimental verruga induced in monkeys by previous investigators. *Bartonella bacilliformis* can readily be recovered in pure culture from the blood, lymph glands, spleen and nodules, and passages from animal to animal are easily carried on.

A detailed report of the foregoing experiments will appear in a forthcoming number of the *Journal of Experimental Medicine*.

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#### SEASONAL AND REGIONAL VARIATIONS IN CURLY-TOP OF SUGAR BEETS

OBSERVATIONS made during the past season (1925) in various sugar-beet growing areas in the states west of the Rocky Mountains revealed striking contrasts between different localities in the amount of curly-top occurring. In southern California there was more curly-top last year than has occurred before in the eight years during which the fields have been observed. In the Salinas Valley and also in the sugar-beet areas of the Sacramento Valley (even including the delta region which has previously been relatively

free from curly-top damage), the damage was comparable to that resulting in the years of worst outbreaks.

By contrast with conditions in California the condition of the crop in the intermountain region of the northwest was the most favorable which has been seen in a number of years. In the Yakima Valley of Washington in 1924 approximately only 25 per cent. of a normal crop was harvested from a large acreage. The losses from curly-top in this valley have been so serious and frequent in occurrence that this past year beet-growing was practically abandoned; three fields, comprising only about twenty acres, were planted this past season. In southern Idaho, where in 1924 somewhat over ten thousand acres were ruined by curly-top, the crop in 1925 was in excellent condition. In 1924 enormous numbers of beet leafhoppers, which are the only known natural agents transmitting the virus of curly-top, invaded the beet fields of this area in the latter part of May and early June. In 1925 there had been no general flight of the insects into the cultivated areas, at least up to July 1. In Utah there was this year relatively little curly-top damage, whereas the only previously recorded outbreak of curly-top in Utah which can be compared in seriousness with that of 1924 occurred in 1905.

The observations which have been given when considered in connection with the climatic conditions which prevailed during the winters of 1923-24 and 1924-25 strongly support the idea that the abundance or scarcity of beet leafhoppers and presumably also the amount of curly-top disease in the sugar beet fields is determined by the climatic conditions of a given area rather than that the severe outbreaks occur simultaneously throughout the range of the insect at periodic intervals.

In the northwest area the winter of 1923-24 was relatively mild and the precipitation was decidedly below normal. Undoubtedly this allowed a large proportion of the leafhoppers to survive the winter and forced them to leave the drying vegetation of the deserts early in the spring. The winter of 1924-25 was severe so that probably a relatively small proportion of the insects survived. The precipitation was relatively high and continued late into the spring so that favorable conditions in the natural breeding grounds delayed the movement of the insects into the cultivated areas.

In the lower half of California, on the other hand, which includes the principal natural breeding areas of the insect in the state, both the winters referred to were mild and with subnormal rainfall. The seasons of 1924 and 1925 were both characterized by outbreaks of the leafhopper and curly-top, though the

outbreak of the last season was much the more severe.

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## SOCIETIES AND ACADEMIES

### AMERICAN SOCIETY OF ZOOLOGISTS

THE American Society of Zoologists held its twenty-third annual meeting at Yale University, on Monday, Tuesday and Wednesday, December 28, 29 and 30.

Monday morning and Monday afternoon were devoted to the reading of papers; Tuesday morning to the reading of papers and the business session; and Tuesday afternoon to the dedication of the New Peabody Museum. The sessions, which were held in the Osborn Zoological Laboratory, were well attended, the attendance running from 65 to 125. The meeting closed Wednesday noon following the symposium on the cancer problem. The following papers constituted the symposium:

"Genetic Studies on the Nature of Cancer," L. C. Strong, Bussey Institution, Harvard University; "Discussion of Certain Etiological Factors in the Causation and Transmission of Malignant Tumors," James B. Murphy, Rockefeller Institute; "The Rôle of Functional Activity in the Production of Mammary Carcinoma," Halsey J. Bagg, General Memorial Hospital and Cornell Medical College. Dr. Erwin F. Smith, of the Bureau of Plant Industry, was unable to be present, and his paper on "The Medical, or Tumor, Aspects of the Crowngall Problem" was not presented. The discussion was opened by James Ewing, Cornell University, and was followed by a general discussion.

On Monday evening, the zoologists dinner was held in the university dining hall, with an attendance of 135. Retiring President Ross G. Harrison delivered the address of the evening after which President Stockard called on President C. C. Little, of the University of Michigan, and Professor G. H. Parker, of Harvard University, for brief remarks.

On Tuesday evening the biological smoker was given in Byers Hall by the local members of the American Society of Naturalists and the American Society of Zoologists in Cooperation with Yale University.

The officers of the society for the coming year are:

S. O. Mast (Johns Hopkins), *President*.  
W. C. Allee (Chicago), *Vice-president*.  
L. B. Arey (Northwestern), *Treasurer*.  
D. E. Minnich (Minnesota), *Secretary*.

D. E. MINNICH,  
*Secretary*.

### THE AMERICAN ANTHROPOLOGICAL ASSOCIATION

THE American Anthropological Association held its twenty-fourth annual meeting at Yale University from December 28 to 30, inclusive, in conjunction with the American Folk-Lore Society. Members of the association took part in the dedication exercises of the Peabody Museum of Yale University. The annual dinner was held at the Faculty Club on December 29. At the scientific sessions, which took place in Kirtland Hall, a large number of papers were presented and on the evening of December 28 President Hrdlička delivered an address on his recent expedition to Asia, Africa and Australia.

Officers for the ensuing year were elected as follows:

*President*—Aleš Hrdlička, U. S. National Museum, Washington, D. C.

*Secretary*—A. V. Kidder, Phillips Academy, Andover, Mass.

*Treasurer*—E. W. Gifford, Anthropological Museum, San Francisco.

*Editor*—Robert H. Lowie, University of California, Berkeley.

### THE WEST VIRGINIA ACADEMY OF SCIENCE

THE second annual meeting of the West Virginia Academy of Science was held at Marshall College, Huntington, W. Va., on November 6 and 7, 1925. An address of welcome by President M. J. Shawkey was followed by the presidential address of Dr. George R. Bancroft on the subject "Carbohydrates and Their Metabolism in the Human Body." Twenty-three papers were presented before the five sections of the academy.

The following officers for the ensuing year were elected:

*President*—John A. Eiesland, W. Va. University.

*Vice-President*—B. R. Weimer, Bethany College.

*Secretary*—John T. Winter, W. Va. University.

Sectional chairmen were elected as follows:

Biology—Miss Gale Holliday, Wheeling High School.

Chemistry—A. C. Workman, Bethany College.

Mathematics, Physics and Philosophy—C. R. Reynolds, Jr., W. Va. University.

Social Science and Psychology—A. S. White, Marshall College.

Geology and Mining—T. S. Tilton, W. Va. University.

It was decided to hold the next annual meeting at Bethany College, Bethany, W. Va., on November 26 and 27, 1926.