this year over 325 individual parasites have been bred out. The length of the life cycle has been found to vary from ten to eighteen days, depending on the climatic conditions.

The parasite has been found in every wheat and corn field examined around Manhattan. Of 3,101 eggs collected between April 28 and June 10, the average per cent. of parasitism was 20.8, and of 116 eggs collected at Crawford (central Kansas) the per cent. of parasitism was 16.3. The insect has also been taken at Dodge City (southwestern Kansas).

The work is still under way and a full description of the parasite together with notes on its life history and efficiency will be published later.

Mr. A. B. Gahan, entomological assistant of the Bureau of Entomology, U. S. Dept. of Agric., to whom specimens of the parasite were sent for determination, says:

> I have made a partial examination of these parasites and find them to belong to the family *Proctotrypidæ*, and they probably fall close to the genus *Telenomus*. It will require further study for me to determine definitely regarding them. It seems probable that they represent not only a new species, but possibly a new genus.

In a more recent letter Mr. Gahan writes:

> After exhausting every effort to determine the parasites of the chinch bug which you sent me and failing to find any such species described, I turned the specimens over to Mr. J. C. Crawford, of the United States National Museum, to see what he could do with them. He informed me yesterday that he had arrived at the same conclusion as myself, namely, that the species would require a new genus.

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## Some Observations on the Sexuality of Spirogyra

The gametes of *Spirogyra* are described in the text-books of botany as being morphologically alike. A few workers have claimed that the female gametes in certain species are larger than the male. Aside from these observations the writer knows of no published accounts of attempts to point out other differences between the male and female gametes of *Spirogyra*. A large number of measurements of the conjugating cells have been made by the writer, but no constant difference in their size has been found. Several examples were observed where the transverse diameter of the filaments producing male gametes was slightly less than that of those in which the females were formed. The male cells may be longer or shorter than or equal the length of the females. The cells of any one filament vary in length. It is, therefore, quite evident that the gametes of some *Spirogyras* can not be distinguished as male and female on the basis of their relative size.

The writer observed a few years ago that the chloroplasts of the female gametes of *Spirogyra crassa*, just after the formation of the conjugating tubes, contained a much larger amount of starch and more pyrenoids than those of the male. The pyrenoids of the male gametes were larger and the amount of starch surrounding each pyrenoid was considerably less than in the females. Practically the same kind of differences seen in the gametes of *Spirogyra crassa* were observed in three other undetermined species of *Spirogyra*. By careful fixation of material of these unidentified species, taken just before or immediately after conjugation had begun and staining in iron-hemotoxylin and erythrosin, the cytoplasm of the majority of the female gametes stained a little more darkly than that of the males. The density of the staining of the female gametes was so marked in some filaments that they could easily be distinguished from the male even when the two were not in close proximity. No examples of conjugating cells were found where the male gamete stained more darkly or in which there were more starch and pyrenoids than in the female. Every year during the past seven years, the writer has examined several hundred filaments of *Spirogyra* in which conjugation was occurring or had just taken place, and in every example, the gamete with less starch and pyrenoids was passing over to or had just united with the gamete possessing a greater amount of starch and pyrenoids. The protoplasts of any one filament

are to all appearances vegetatively alike. They differ apparently only in size. Zygotes were never found in both filaments, but only in the one containing the larger amount of food.

The difference in the number and size of the pyrenoids and the amount of starch present in the chloroplasts and in the staining reaction of the cytoplasm of the gametes, clearly indicate at least that in certain species of *Spirogyra* the male and female gametes are distinctly morphologically as well as physiologically different. Since starch is formed more abundantly in the female gametes than in the male, the female plants evidently possess a greater vegetative activity than the male plants. Blakeslee[1] in his recent studies of *Mucors* concludes that the female plants (+ strains) in dioecious forms are more vegetatively luxuriant than the male plants (— strains).

A more detailed account than is presented here will appear later.

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## THE SOCIETY OF AMERICAN BACTERIOLOGISTS

### SYSTEMATIC AND PHYSIOLOGIC BACTERIOLOGY

THE annual meeting of the society was held in New York City, December 31, 1912, and January 1 and 2, 1913, under the presidency of Dr. William H. Park. The sessions were held at the American Museum of Natural History, the University and Bellevue Hospital Medical College and the Rockefeller Institute. The society expressed its indebtedness to these institutions for their courtesy. The annual dinner was held on Wednesday evening, January 1, 1913, at which the president's address was delivered. Dr. Park spoke upon "The Applications of Bacteriology in the Activities of a City."

With this as his text Dr. Park traced the history of the Research Laboratories of the Board of Health of New York City, an institution which easily takes rank with the Pasteur Institute of Paris and other institutions of the kind in Europe. In the original work which has been done under Dr. Park's direction no other American laboratory engaged in public health work can point to so many achievements which have resulted in advancing our knowledge of infectious diseases and methods for controlling them.

The following officers were elected for a term of one year:

*President*—C.-E. A. Winslow.

*Vice-president*—Charles E. Marshall.

*Secretary-treasurer*—A. Parker Hitchens.

*Council*—W. J. MacNeal, L. F. Rettger, D. H. Bergey, H. A. Harding.

*Delegate to Council of A. A. A. S.*—S. E. Prescott.

The following papers were read:

*The Value of Glycerinated Potato as a Culture Medium:* M. R. SMIRNOW, M.D., New Haven, Conn., instructor in bacteriology and pathology, Yale Medical School.

The glycerinated potato culture medium belongs to the class of the so-called media, which as the term implies, are media of various compositions and are used only for special purposes. They may be employed as follows: (1) for the purpose of isolating microorganisms; (2) to furnish a sufficiently favorable medium for the growth of certain organisms; (3) for specific or differentiating tests; (4) to bring out special features of growth. Aside from blood media, the most frequently used of the special media are the glycerinated potato and agar, but even these are practically limited to the cultivation and the study of acid fasts. It has long been the opinion of the writer that if some of our so-called special media were put to a more general use, hitherto unknown biological features in the study of microorganisms would come to light. This was emphasized by the finding of a marked contrasting culture on glycerinated potato of a glanders bacillus, which was being isolated at our laboratories during the last year. This organism was isolated from a human case of glanders. When first obtained it gave but a faint yellow growth on plain potato, by no means the so-called honey-like growth. It was then planted on glycerine potato with more success. On this medium it gave a luxuriant growth of a bright yellow color and typically honey-like in character. It was this peculiar and striking difference in the growth of the glanders bacillus that led up to the work here outlined. The cultural characters of twenty-five microorganisms were studied on glycerine potato, plain potato and broth potato, the

[1] Blakeslee, A. F., "A Possible Means of Identifying the Sex of (+) and (—) Races in the *Mucors*," SCIENCE, N. S., 37: 880–881, 1913.