These and other objections were duly communicated to both the writer and the editor of the paper, and if they had been cited in full I should not now refer to the subject.

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## THE SEX RATIO OF ADULT TRICHINAE

THROUGHOUT the literature vague and contradictory statements prevail concerning the intestinal phases of the life-history of *Trichinella spiralis*. These relate especially to the sex ratio, and to data relative to the abundance and duration of the adult worms in the intestine of the host. They are due largely to the tedious and imperfect methods which have been employed for collecting the intestinal stages.

While engaged in experimental work on this parasite the writer evolved a simple and effective method of obtaining the adults in large numbers. This consists of stripping the contents of the intestine of the infected animal into a physiological salt solution and screening the adults from the débris with a small-mesh wire screen. By using this method it has been very easy to make exact observations on the intestinal worms.

White rats were fed heavy doses of trichinized flesh and beginning with the third day were killed and examined at short intervals. From one specimen, opened at the beginning of the third day, 2,176 worms were recovered; of these 1,196 were females and 980 were males. At the end of the third day 73 adults, of which 36 were males, were found in the intestine. The next rat, opened at the end of four days, had 12 adults, of which 8 were females and 4 were males, which would indicate a very light infection. At the end of six days 51 males and 63 females were found. The condition was about the same at the end of eleven days, when 73 males and 81 females were taken from the intestine. Thirteen days after feeding one of the rats contained 451 adult worms, of which 324 were females. At this time there seems to be a dropping off in the numbers of both sexes, for at the end of sixteen days only 4 adults were found, one of which was a living male. One of the females was dead and found in the feces. The diaphragm was well filled with the migrating larvae, indicating a very heavy infection. Subsequent examinations made at the end of eighteen, nineteen, twenty, twenty-one and thirty-four days did not yield any adults, while in each instance the migrating larvae or the encysted larvae (encystment beginning at the twentieth day) were found to verify the infection.

These data indicate that at the outset the males and the females are equal in numbers. There is a gradual decline in the proportions of the males up to the thirteenth day, and at this point the worms of both sexes begin to leave the intestine rapidly. This continues until the sixteenth day, when very few of either sex were found. The males and the females were both found in the intestine as late as the sixteenth day, which seems to be about the normal duration of the adults in the intestine.

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## A NEW LOCALITY IN CHINA FOR LYTTONIA RICHTHOFENI KAYSER

DURING the years (1909–1915) that the undersigned, now of the Fifth Avenue High School, Pittsburgh, Pennsylvania, was stationed at the University of Nanking, China, as head of the department of biology and geology, he did much collecting from the Chihsia Limestone at Chihsia Shan. A representative collection of the material thus obtained was sent to the Carnegie Museum, Pittsburgh, where it has been studied. In November of 1926, Dr. Ichiro Hayasaka, head of the department of geology of the Japanese Imperial University of Formosa, visited the museum and went over this material with the undersigned. At that time it was discovered that two or three specimens of a brachiopod, tentatively identified as *Oldhamina decipiens* Waagen, were really small specimens of *Lyttonia richthofeni* Kayser.

Considerable interest attaches to this discovery because the finding of this diagnostic Permian fossil in the Chihsia limestone indicates that this limestone can no longer be classed as Dinantian, as placed by Dr. A. W. Grabau, of the Chinese Geological Survey of Peking, but instead must be regarded as Permian.

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## PHOTOMETRY

MR. IRWIN G. PRIEST has been good enough to send me a copy of his letter to you, dated June 21, concerning the description in my recent book "Photometry," of the instrument developed by him for heterochromatic photometry (pp. 244–5).

While agreeing, of course, that his instrument is in no wise identical, either in principle or in use with Helmholtz's "Leucoscope" it still appears to me that "Leucoscope Photometer" is a not inappropriate description of the instrument which is, in essence, a photometer in which a color match is obtained by means of the rotatory dispersion of quartz, and a brightness match by means of polarization prisms. Nevertheless it is clear that as Mr. Priest is the in-