

These larger chromosomes are always found at the periphery of the spindle.

The sex chromosomes are hardly distinguishable from the autosomes in the gonial divisions. In the primary spermatocyte division one of the larger chromosomes appears at the side of the spindle. In the prophase it is very slow in taking its place on the spindle and is often prematurely divided by the time it reaches its position on the equatorial plate. The daughter chromosomes of the prematurely divided sex chromosomes then precede all the autosomes, reaching the pole of the spindle long before the autosomes. Since each resulting secondary spermatocyte receives one of the two daughter chromosomes, which are identical, the condition is interpreted as one in which the male is homogametic. It would be inferred that the female would be heterogametic and the sex chromosomes would therefore represent the ZZ"-WZ type.

An unusual condition appears in the primary gonial division in *Xiphophorus* which is interpreted as a presynaptic pairing of the diploid chromosomes. A condition comparable to this may be present in *Platylocilus*, but has not been seen in the hybrid.

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INFLUENCE OF GREGARINES ON GROWTH IN THE MEALWORM

SOME *Tenebrio molitor* eggs were placed with sterilized food in a Petri dish. It was noted that larvae hatched away from adults did not develop as rapidly as did those hatching from eggs remaining in the culture with adults. It appears that the young may derive the gregarines either directly from the adults or from food in which the adults have remained for some time. Larvae reared with adults are larger and the mortality rate is less than those reared in sterile food in the absence of adults. Computation shows that 241 days after the beginning of the experiment the larvae reared without adults were on the average 6 mm shorter than larvae reared with adults.

It is known that the intestinal tract of *Tenebrio* larvae contains the protozoon, Gregarina. It was found that no larva from cultures lacking adults contained a gregarine and that no larva examined from the cultures containing adults lacked gregarines. Apparently these gregarines are essential for growth. It has not been learned whether the parasites have a function in digestive processes or not. This study is being continued.

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SOCIETIES AND MEETINGS

THE NORTH CAROLINA ACADEMY OF SCIENCE

THE thirty-second annual meeting of the North Carolina Academy of Science was held at Davidson College, Davidson, N. C., on May 5 and 6. Papers were presented before the general section of the academy on Friday morning and afternoon. On Friday evening the retiring president, J. B. Bullitt, professor of pathology in the University of North Carolina, gave the presidential address on "Early Man, Some Comparisons, Not Odious." On Saturday morning the academy met in the following sections: general section, chemistry section, mathematics section and physics section. Sixty-nine papers and six exhibits were on the program. Abstracts of most of these papers and complete papers of several will appear at an early date in the *Journal of the Elisha Mitchell Scientific Society*, Vol. 49, No. 1.

Resolutions of respect were passed in honor of Dr. Clarence A. Shore, director of the State Laboratory of Hygiene at Raleigh, and for the Reverend George W. Lay, of Chapel Hill.

The executive committee reported the election of thirty new members during the year, and the reinstatement of five former members. One hundred and thirty-three registered at the meeting.

Lane Barksdale, of the Greensboro Senior High School, for his essay, "Orchid Hunting in Guilford County," was declared the winner of the High School Science Prize, a silver loving cup, for the best essay submitted by a high-school student. Essays for 1933 were confined to the fields of biology and geography.

The officers elected for the year 1934 were:

GENERAL ACADEMY

President, B. W. Wells, State College
Vice-president, Helen Barton, Woman's College
Secretary-treasurer (for three years), H. L. Blomquist, Duke University
Representative to the American Association (for two years), C. F. Korstian, Duke University

CHEMISTRY SECTION

Chairman, H. D. Crockford, University of North Carolina
Vice-chairman, J. E. Saylor, Duke University
Secretary-treasurer, R. W. Bost, University of North Carolina
Councilor, N. Isbell, Wake Forest College

MATHEMATICS SECTION

Chairman, E. L. Mackie, University of North Carolina
Secretary, E. R. C. Miles, Duke University