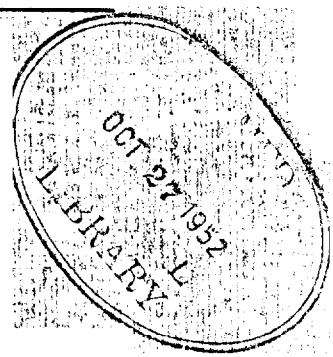
RECORDS

of the

ENETICS SOCIETY OF AMERICA

NUMBER TWENTY-ONE



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1952

Tschermak on the occasion of his 80th birthday, November 15, 1951. The importance of your contributions in establishing the science of genetics has not diminished over the years, and your friendliness to younger genetics colleagues has continued to increase our personal regard. We hope you may continue to stimulate genetics meetings with your presence for many years to come.

The resolution was adopted unanimously.

For the report of the Public Education and Scientific Freedom Committee, the chairman asked the president-elect John W. Gowen to take the chair since the president is also chairman of the P.E.S.F. committee. The following report was then presented by M. R. Irwin. The points presented had the unanimous approval of the P.E.S.F. committee. These points elaborate the functions and methods of procedure of the committee.

1. A standing Committee on Public Education and Scientific Freedom should be established by the Society (this was approved last year).
   A. This Committee should have power to take action on all public matters of concern to the Society. It should have the right and responsibility to publish or to make statements for publication, but with the requirement that it speak and publish solely as a Committee of the Society and not in the name of the Society as a whole. Any statement made by the Committee should represent the unanimous opinion of the members of the Committee, or should have been approved by the members of the Society.
   B. The Committee should include within its scope not only freedom of science and anti-genetics propaganda, but should foster the understanding of the contributions and applications of genetic knowledge.
   C. The Committee should consider the planning and execution of a long range policy of public education in the methods, principles and applications of genetics.

Each section of the Committee report was voted upon separately. Each section A, B and C was approved unanimously.

A motion was then made by P. C. Mangelsdorf expressing our thanks to the local committee, Sheldon C. Reed and Charles R. Burnham, also to the staff of the A.I.B.S. and to the University of Minnesota for excellent meeting places and for detailed planning that contributes so much to a successful meeting. The motion was seconded and carried by acclamation.

Meeting adjourned at 2:17 P.M.

W. R. Singleton
Secretary

f the sub-family Cricetinae, or "Dwarf and True Hamsters," are haracterized cytologically by large sex bivalents. Attempts to induce utosomal and sex-linked mutations among the 11 genetic linkage groups re now in progress. The very late pachytene chromosomes are easily tained in squash preparations which should facilitate detecting induced hromosomal aberrations. At this stage, the sex bivalent is a hetero-hromatic mass measuring 5 x 8 microns, and the autosomes vary from to 33 microns in length. The spherical nucleolus, attached to the ex bivalent, has a diameter of 5 microns. The nucleolar organizer is eterochromatic and in the shape of a half-sphere having a diameter f 3 microns. A brief review of the problems encountered while breed-ng the animals, and planning the diet will be presented. The possibility f inducing tumors by treatment with methylcholanthrene and 9,10-imethyl-1,2-benzanthracene is also being investigated. If the above ials are successful, histocompatibility tests between genetically dif-erent ascites tumor cells and hosts will be initiated. In addition to his, cytological observations involving the 11 pairs of morphologically ifferent chromosomes in ascites tumor cells will be possible. H3.

ZINDER, N. D. and J. LEDERBERG, University of Wisconsin, adison, Wisconsin. Gene transfer in Salmonella. — A new mechanism or factor transfer has been found in the bacterium, Salmonella typhi-urium. This mechanism is fundamentally different from sexual re-ombination as found in the bacterium, Escherichia coli and it shares ome aspects with the "type transformations" of the pneumococcus and emophilus. We have called this process transduction, which is de-ined as genetically unilateral transfer to stand in contrast with the ion of equivalent elements in fertilization. — When S. typhimurium attacked by "lysogenic" phages, it releases a filtrable agent (FA) hich can transfer individual genetic traits from one bacterium to nother. In detailed experiments wherein the FA-donor and the FA-ecipient differed in a number of different characters, each character as subject to transduction but each independently of the others. — ch characters as nutrition, fermentation, drug resistance and antigens ve been transduced. The character transduced is stable both after egetative reproduction and iterated transduction. — It is tempting to dentify the active material as bacterial genes, at best small chromo-mal fragments which undergo a kind of crossing-over with the host's romosomes. — FA can be identified with a heat stable chloroform ilstant particle about one-tenth micron in diameter. It is stable to eoxyribonuclease and so differs at least superficially from the trans-rming principles of pneumococcus and Hemophilus. However, much vidence has been accumulated implicating the bacteriophages, once hought of as genes themselves, as passive carriers of the genetically ctive material. — Salmonellae having somatic antigen XII adsorb S. yphimurium FA and some inter-type transfers have been accomplished. hese latter include some antigenic hybrids indicating that transduction ight play a role in the evolution of new serotypes in this x antigeni-lly complex group. I6.