

is common in the crossing of strawberry varieties but that it has not been recognized because of the similarity of the parent plants used. In the cases reported here, the parent plants were so strikingly different in size and appearance, in spite of their having the same number of chromosomes, that paternal and maternal inheritance could be easily recognized. The knowledge that this type of inheritance can be obtained from crossing two plants of the same chromosome number which readily hybridize is useful in making studies on inheritance, and it will obviate the necessity of working with crosses between plants of different chromosome numbers which are rather difficult to obtain.⁶

G. LEONARD RYGG

OREGON STATE AGRICULTURAL COLLEGE

AND U. S. DEPARTMENT OF AGRICULTURE

GEORGE M. DARROW

U. S. DEPARTMENT OF AGRICULTURE

PASSIVE IMMUNITY TO INFECTION WITH A LARVAL TAPEWORM OF THE ALBINO RAT¹

THE results of a preliminary experiment show that the albino rat can be protected against infection with onchospheres of a cat tapeworm, *Taenia taeniaeformis*, by transfer of serum from immunized rats. This appears to be the first demonstration of transfer of what are probably circulating antibodies resulting from intra-peritoneal injections of cestode material.

It has been shown² that an active acquired immunity against infection by onchospheres of *T. taeniaeformis* can be artificially produced in the albino rat as a result of a standard series of six intra-peritoneal injections of a 1 per cent. suspension of powdered worm material of the same species. Complete or almost complete inhibition of development of *Cysticercous fasciolaris* (larval stage of *T. taeniaeformis*) in the liver of the rat resulted from the injections; while cyst development took place normally, for the most part, in control animals. Such artificially immunized rats were used in the present experiment as a source of the serum which was donated to the experimental rats. Thirty-four rats were given the standard series of injections from July 24 to August 8, 1931; they were reinjected with 2 cc of a 1 per cent. suspension of worm material on October 5 and 7. Serum was collected on October

⁶ Published as Technical Paper No. 157, with the approval of the director of the Oregon Agricultural Experiment Station, a contribution of the department of horticulture.

¹ This investigation was in large part made possible by a research grant made to Washington University by the Rockefeller Foundation.

² H. M. Miller, Jr., *Proc. Soc. Exp. Biol. and Med.*, 27, 926, 1930; *Jour. Prev. Med.*, 5, 429, 1931.

9 and used the following day; normal serum from stock rats was also obtained on October 9.

Fifty-nine rats from 6 litters born May 16 to June 1, 1931, were used; individuals of each litter were distributed through three groups: one (Group A, 22 rats) to receive immune serum; another (Group B, 12 rats), normal serum; and the third (Group C, 25 rats) untreated. All rats were infected with equal portions of a uniform suspension of onchospheres, and the injection of serum begun 2 hours later. The rats of Group A received either 2.5 cc or 7 cc of immune serum intra-peritoneally, and those of Group B either 3 cc or 7 cc of normal serum. All animals were autopsied 34 to 38 days after infection. The data are shown in the following table.

Further experiments are in progress.

Treatment	Number of rats	Average number of cysts	
		Living	Dead
Group A 7 cc immune serum	10 ³	11	25
	2	142	8
Group A 2.5 cc immune serum	3	12	46
	7	110	19
Group B 3 cc or 7 cc normal serum controls	12	167	14
	25	276	16

HARRY M. MILLER, JR.

MARGARET L. GARDINER

DEPARTMENT OF ZOOLOGY,
WASHINGTON UNIVERSITY,
ST. LOUIS

BOOKS RECEIVED

- Bulletin of the Museum of Comparative Zoology. *Classification of Insects*. CHARLES T. BRUES and A. L. MELANDER. Vol. LXXIII. Pp. 672. 1121 figures. The Museum.
- CAYLEY, NEVILLE W. *What Bird is That?* Pp. xix + 319. Illustrated. Angus and Robertson, Sydney. 12/6.
- GREAVES, JOSEPH E. and ETHELYN O. GREAVES. *Elementary Bacteriology*. Second edition. Pp. 535. 138 figures. Saunders. \$3.50.
- KENLY, JULIE C. *Children of a Star*. Pp. xi + 242. Illustrated. Appleton. \$2.50.
- KIPPING, F. STANLEY and E. BARRY KIPPING. *Organic Chemistry*. Pp. xi + 614 + xxix. 24 figures. Lippincott. \$3.50.
- LONG, J. S. and H. V. ANDERSON. *Chemical Calculations*. Third edition. Pp. ix + 259. 16 figures. McGraw-Hill. \$1.75.
- Report of the Library of Congress for the Fiscal Year, 1931*. Pp. viii + 463. Illustrated. U. S. Government Printing Office.
- ROBSON, G. C. *A Monograph of the Recent Cephalopoda*. Pp. xi + 359. Illustrated. British Museum (Natural History), London. £1.

³ No living cysts present in four rats.