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## On the Inheritance of Resistance to Fowl Typhoid in Chickens

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until 1890 when Eugene Scheiffelin is credited with having released eighty of the birds in Central park, N. Y. City, that a successful introduction was made.

Unlike the attempts that failed, the lot thrived in the new land, and in 1891 forty more were imported. By 1902 it seemed that the Starling had gained a foothold in the United States and had extended its range outside of greater New York; and by 1916 was found in many of the neighboring states. The increase in number and spread of the species has been rapid since 1920. A flock of these birds was seen as far west as Urbana, Ill., in 1922, and two specimens were collected near Milwaukee, Wis., in 1923.

The first published record of the Starling in Iowa came when W. S. Long reported (*Auk*, vol. XLV, 101) seeing a Starling at Lamoni, Decatur Co., Iowa in Dec. 1922. On Mar. 23, 1929 three specimens were collected by the writer near Oxford, Johnson Co., Iowa, a flock of about a dozen having spent several weeks in a grassy gully at this place. These specimens, the first of the species to have been collected in Iowa, are now in the Bert Heald Bailey Museum of Coe College.

The New Hampton Tribune of Apr. 10, 1929 prints the report of one of the birds being taken in a sparrow trap during the first week in April. If the experience of other states holds true here, the Starling may be expected to become a pest within a few years.

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## ON THE INHERITANCE OF RESISTANCE TO FOWL TYPHOID IN CHICKENS

W. V. LAMBERT AND C. W. KNOX

Studies at the Iowa Experiment Station during 1927 and 1928 indicate very clearly that selection is effective in increasing resistance to this disease. Following intraperitoneal inoculation with a standard dose of virulent fowl typhoid bacteria, a total of 1,051 chicks (7 days old), from parents that had both survived an acute infection of fowl typhoid, gave a mortality of 39.5 per cent. The mortality in a group of 1,084 chicks from parents that had never been subjected to an infection with this disease was 89.2 per cent. The percentage mortality in a group of 537 chicks, where the male alone was the surviving parent, was 67.2. In a lot of 57 chicks the

dams of which alone were the survivors the mortality was 61.4 per cent. The last two groups indicate that the male is as effective as the female in transmitting resistance to the progeny, as well as to show that a transfer of passive immunity is not responsible for the greater resistance of the chicks from the surviving parents. The speed of mortality in the different lots corresponded in general with total mortality, indicating that the chicks from parents that have survived an infection of fowl typhoid possess in general a higher potential of resistance than do chicks from parents that have not survived an epidemic of this disease.

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### THE SEX RATIO IN GUINEA PIGS

R. G. SCHOTT

The relative proportions of the sexes appearing in a total of 2,014 guinea pigs in the colony of the Department of Genetics, Iowa State College, over a six-year period have been studied. The ratio of males for the 2,014 animals was 49.4%. This is a close approach to the expected 50:50 relationship of the sexes as postulated by the sex-chromosome mechanism. Considerable seasonal fluctuation in the ratios were observed, but these are not consistent throughout the period. Age of parents, litter size, and litter sequence have no marked effect on the sex ratio.

The number of males dead at birth is greater than the number of females. Although this finding is consistent with previous observations among mammals, the difference here is not large enough to be considered significant. The death rate from birth to thirty days changes in favor of male viability, but the differences are not sufficiently great to be significant.

IOWA STATE COLLEGE,  
AMES, IOWA.

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### THE INHERITANCE OF LEG-FEATHERING IN THE CHICKEN

W. V. LAMBERT AND C. W. KNOX

The inheritance of leg-feathering in crosses of the Black Langshan (feathered) with the White Plymouth Rock and Buff Or-