coat, the blood groups,[1,2] abnormalities in the skeletal and cranial bones, etc. To substantiate this point the blood-cell formulae of standard varieties of rabbits were studied. In this study there were 146 adult male rabbits from 8 standard breeds, distributed as follows: 24 Havana, 19 Himalayan, 14 Belgian, 24 English, 16 Polish, 18 Dutch, 18 Beveren and 13 Rex animals. These breeds have been propagated in pure line in this laboratory from 3 to 8 years. The animals used were comparable as to age (average age 8.1 months) and physical condition and were examined in large groups diversified as to breed. Uniform diet and housing conditions were maintained. An average of 3.3 hematological observations were made on each individual rabbit distributed over a period of 2.1 weeks, including 4.0 red cell, platelet and hemoglobin estimations, 5.4 total and 6.3 differential white cell counts. The mean blood level for each cytological factor was computed. A statistical analysis of the material revealed that the blood cytology of individuals of the same breed was more alike than the blood cytology of individuals of different breeds. It was apparent that characteristic and typical blood formulae existed for each variety of standard breed rabbits studied and that the standard breeds in our laboratory could be identified on this basis. The chances of this being due to a random association of circumstances are remote, since for 11 of 14 blood factors the variance between breeds was significantly greater than the variance within breeds. (Red blood cells, $z = 0.92$, $P. = 0.01-$; hemoglobin, $z = 0.95$, $P. = 0.01-$; platelets, $z = 0.70$, $P. = 0.05-$; white blood cells, $z = 0.74$, $P. = 0.05-$; neutrophiles per cmm., $z = 0.10$; basophiles per cmm., $z = 1.06$, $P. = 0.01-$; eosinophiles per cmm., $z = 0.61$, $P. = 0.05-$; lymphocytes per cmm., $z = 1.17$, $P. = 0.01-$; monocytes per cmm., $z = 0.34$; neutrophiles in per cent., $z = 0.88$, $P. = 0.01-$; basophiles in per cent., $z = 1.12$, $P. = 0.01-$; eosinophiles in per cent., $z = 0.67$, $P. = 0.05-$; lymphocytes in per cent., $z = 1.07$, $P. = 0.01-$; monocytes in per cent., $z = 0.07$). The most striking variations between the eight breeds were in the values for the basophiles, lymphocytes, red blood cells and the hemoglobin. It is interesting and perhaps significant that this should be the case, since these latter factors were found to be reliable indices of the natural resistance of rabbits to inoculation with a transmissible malignant tumor or with the spirochete of syphilis. The lymphocytes were found to vary from a level of 3,780 per cmm. for the Polish breed to levels of 1,810 and 2,030 per cmm. for the English and Havana; the basophiles from 680 to 690 per cmm. in the Belgian and Beveren to 320 and 360 per cmm. for the Polish, Havana and Dutch; the red blood cells from 5,730,000 per cmm. in the Havana to 4,870,000 in the Rex; and the hemoglobin from 73.4 per cent. and 73.9 per cent. in the Havana and Polish to 68.1 per cent. in the English and Beveren and 63.6 per cent. in the Rex. In contrast to this wide variation, no significant differences between the breeds were found for the neutrophiles per cmm. or for the monocytes, either per cmm. or in per cent. The Belgian, English, Polish, Beveren and Rex breeds had mean neutrophile levels of 3,760, 3,720, 3,750, 3,740 and 3,770 per cmm., respectively. Not only were typical blood formulae found for each breed, but closely related breeds, such as the Belgians and the English, and the Havana and the Dutch had similar blood formulae, and relatively unrelated breeds had widely different blood formulae. In addition, if the breeds were grouped according to weight, that is, heavy and light, their respective blood formulae were likewise grouped, the heavier breeds having significantly higher total white blood cells and higher basophiles and monocytes per cmm. and in per cent., and significantly lower hemoglobin and red blood cells than the smaller and lighter breeds. The animals of some breeds were entirely uniform for certain blood cell factors, while the animals of other breeds were heterogeneous for the same factors. In breeds where heterogeneity existed for a given factor the animals in which the factor was high were more closely related than those animals in which the factor was low and *vice versa*. It was concluded, therefore, that the differences in the blood formulae among normal rabbits are largely inherited differences and studies on the transmission of such characters are now being made.

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