SEASONAL CHANGES IN THE DIFFERENTIAL COUNT IN FEMORAL MARROW OF THE HARE (Lepus europaeus PALL.)

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Hematological examinations of certain game animals showed that in partridges and hares the hemoglobin levels, erythrocyte counts and packed cell volume values increased during the winter season (Novakova, 1968. Jour. Forest. Suisse, 31-44; Pujman, 1966. Symposium on partridge, VULHM CSMS, 114-117).

Experiments were conducted to determine if seasonal changes also occurred in the femoral myelogram. Because of availability the hare was chosen as the species to be investigated. Bone marrows obtained from 9 adult (mature) hares shot in December, 15 shot in June and July, and 9 shot in August, September,

TABLE 1. *Mean percentages of cells in the femoral myelogram of the hare.*

	December	June July	August September October
Number of hares	9	15	9
Myeloblast	0.3	0.5	0.5
Promyelocyte	2.2	2.1	2.9
Myelocyte	2.3	3.9	8.0
Metamyelocyte	2.1	5.3	7.2
Neutrophil, Band	3.2	6.8	7.4
Neutrophil, Mature	6.9	19.2	16.0
Eosinophilic Myelocyte	0.6	0.8	1.7
Eosinophilic Metamyelocyte	0.6	0.7	1.7
Eosinophil, Band	0.2	0.5	0.3
Eosinophil, Mature	0.2	0.5	0.3
Basophilic Myelocyte	0.1	0.1	0.1
Mitotic Granulocytic Cells	0.5	0.7	0.7
Megakaryocyte	0.2	0.6	0.4
Agranulocytic and Retic. Cells	5.6	6.1	3.3
Proerythroblast	0.7	0.4	0.2
Macroblast	0.6	0.1	0.3
Basophilic Normoblast	5.2	3.3	2.6
Polychromatophil Normoblast	20.3	20.2	14.9
Orthochromatophil Normoblast	47.0	27.5	31.9
Mitotic Erythroid Cells	1.3	0.6	0.1

and October, were examined, with no regard to sex. Femoral marrow smears were obtained immediately after the shooting and stained with the panoptic stain according to Pappenheim. In each smear, 500 cells were evaluated. As illustrated in Table 1, the average differential marrow counts, obtained from hares shot in December, had significantly lower granulocytic counts (P.05) than those examined between June and the end of October. This decrease included all developmental forms belonging to the neutrophilic granulocyte series, commencing with the myelocyte. The percentage of eosinophils was 1.4% in the December hares, 2.5% in the early summer group and 4% in the late summer - early fall hares. The mean differential erythroid counts also are illustrated in Table 1. All developmental forms of the erythroid series appeared more numerous in the December marrow than in the marrow of the other two groups, however, a statistically significant difference was found only in the orthochromic normoblasts. The Myeloid : Erythroid (M:E) ratio for the December group was 1:4; for the early summer group it was 1:1.27; and for the August to October group, it was 1:1.06.

The results of these preliminary examinations indicated that the relative enhancement of erythropoiesis which occurred in the femoral marrow of the December hares, might be one of the factors responsible for the observed peripheral blood changes, i.e. increased Hb and PCV values.

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