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Coprophagy in the Cottontail Rabbit

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Crushing of the occipital and parietal bones was the most common damage to this group of skulls. In any one pellet both members of paired bones could usually be located, perhaps indicating that each pellet is the remnants of a particular meal. Figures above are conservative as "odd" bones were not enumerated.

Studies of Barn Owls in California (Hawbecker, Condor, 47:161-165, 1945) and in Michigan (Wallace, Mich. Agri. Exp. Sta., Tech. Bull., 208:1-61, 1948) indicated that prey was taken on the basis of availability.

The strongly nocturnal hunting habits of the barn owl are reflected by the absence of remains of diurnal mammals such as the least chipmunk (*Eutamias minimus*), rock squirrel (*Citellus variegatus*), thirteen-lined ground squirrel (*Citellus tridecemlineatus*), and blacktailed prairie dog (*Cynomys ludovicianus*), all of which were known to occur in the immediate vicinity.—EDWARD B. REED, *Department of Biology, University of Saskatchewan, Saskatoon, Canada. Received February 3, 1956.*

### COPROPHAGY IN THE COTTONTAIL RABBIT

Coprophyagy was recently reported for the swamp rabbit (*Sylvilagus palustris paludicola*) by Hamilton (Jour. Mamm., 36:303-304, 1955). He indicated that the reingestion of droppings probably is more widespread in lagomorphs than is generally recognized. He also stated that cursory examinations of the stomachs of many cottontails (*S. f. mearnsti*) failed to indicate refection in that species. Meyers (Aust. Jour. Zool., 31:366-345, 1955) reported that coprophagy is a normal feature in the biology of the rabbit (*Oryctolagus cuniculus*) in Australia.

Since coprophagy in the cottontail rabbit apparently has not been reported the following observation seems noteworthy. On December 19, 1955, at the Kellogg Station of Michigan State University near Battle Creek, twenty-two rabbits were collected by shooting. Five of these had quantities of fecal pellets in the cardiac portions of their stomachs. The whole, tan-colored pellets were lying on top of well chewed "natural" foods that occupied the pyloric part of the stomach. The fecal pellets were positively identified by the presence of unsporulated coccidia oocysts and many rod-shaped bacteria.

Myers (*op. cit.*) reported that refection is important in nutrition and in vitamin economy and was most prevalent when food was scarce. The coprophagy reported here occurred when the ground was covered by snow which made green food unavailable. This may have created a situation in which coprophagy was likely to occur.—AELRED D. GEIS, *Departments of Zoology and Fisheries and Wildlife, Michigan State University, East Lansing, Michigan. Received April 28, 1956.*

### NORMAL BLOOD CELL COUNTS FOR THE COTTONTAIL RABBIT

During a study of the effects of certain pathogens on cottontail rabbits (*Sylvilagus floridanus*) it became necessary to know normal blood cell counts for this species. Rabbits were secured for this purpose by live trapping during the spring and fall of 1953, 1954 and 1955 at the Kellogg Station of Michigan State University near Battle Creek, Michigan. Counts were made on full grown and apparently healthy animals, using standard procedures. Blood was obtained by venipuncture of the peripheral vein of the ear. Twenty-eight white blood cell counts ranged from 4,350 to 11,000 per cubic millimeter with a mean of 6,736 and a standard error of  $\pm 155$ . Sixteen red blood cell counts ranged from 4,520,000 to 7,700,000 cells per cubic millimeter with a mean of 5,817,500 and a standard error of  $\pm 240,018$ . Mean white and red blood cell counts in the domestic rabbit (*Oryctolagus cuniculus*) are 7,900 and 5,600,000 respectively (Runnells, Animal Pathology, Ia. St. Col. Press., Ames, 1946). Thus in the wild cottontail rabbit it appears that erythrocyte counts are about the same as in the domestic species while leucocyte counts are possibly lower.—AELRED D. GEIS, *Departments of Zoology and Fisheries and Wildlife, Michigan State University, East Lansing, Michigan. Received April 28, 1956.*