

of Western Ontario, for helpful comments on the manuscript. This paper is a by-product of studies supported by the Canadian Wildlife Service, The Canadian National Sportsmen's Show, and the National Research Council of Canada.

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Shrike prey selection: Color or conspicuousness?—The behavior of the Loggerhead Shrike (*Lanius ludovicianus*) in attacking and killing its prey, including mice, is well-known and was summarized in Bent (1950), but no information is available for comparison of prey selection by shrikes for two or more types of mice. My objective was to test for differential predation on white and agouti mice (*Mus musculus*) by Loggerhead Shrikes and thereby to measure the effectiveness of selection against a conspicuous prey (white) under natural conditions. This approach utilized wild shrikes in a natural situation rather than under laboratory conditions. The selection index (Dice, 1947) was used to measure the effectiveness of selection. Selection indices range from -1.0 when all conspicuous prey are taken to +1.0 when all nonconspicuous prey are taken and equal 0.0 when same number of both prey are captured.

Experiments were conducted to test the response of shrikes to pairs of laboratory-raised house mice (1 albino and 1 agouti) simultaneously released near the predator. Differential activity of the two phenotypes of mice is negligible for this type of experiment (Kaufman, 1971). Mice in the first experiment (Exp. 1) were released on a background with little or no vegetation. Visibility of the prey was decreased in the second experiment (Exp. 2) by releasing the mice in dense vegetation within 50 m of the predator or on bare substrate 60-100 m from the shrike. Experiments were conducted on the Atomic Energy Commission's Savannah River Plant near Aiken, South Carolina during January-May 1971.

During each trial, mice were released from a slow-moving or stopped vehicle. The vehicle was then moved 50-100 m from the point of release and shrike and mice observed. Trials were repeated for each shrike when possible; 10 to 15 different shrikes were tested. The phenotype of the first mouse killed, time from

release to capture, and response of shrike to the second mouse was recorded. Chi-square analyses with Yates correction for continuity (Steel and Torrie, 1960) were used.

Forty-six pairs of mice were released and at least one mouse was killed during 39 trials. Shrikes captured the first mouse in less than 1 minute in over 80 percent of the successful trials. Both mice were killed during 16 trials; one shrike killed 16 mice during 8 trials in a 2½-hour period.

When mice were released near shrikes in areas with sparse vegetation (Exp. 1), 4 white and 19 agouti mice were captured first. The selection index was +0.652, which was significantly different from 0.0 ($\chi^2 = 9.8$, $P < 0.01$). Shrikes captured 13 white and 3 agouti mice when mice were released at a distance or in dense vegetation (Exp. 2). The selection index was -0.625, which was significantly different from 0.0 ($\chi^2 = 6.2$, $P < 0.05$). The number of white and agouti house mice captured under these conditions of the second experiment was significantly different from expected captures calculated from ratio of white to agouti on sparse vegetation (Exp. 1; $\chi^2 = 42.8$, $P < 0.01$).

Selection for concealing coloration in prey organisms is dependent upon at least one of its predators being more effective at capturing the conspicuous phenotype or phenotypes than at capturing the cryptically colored phenotype. Captures of mice by shrikes in Experiment 2 demonstrate selection against the conspicuous prey and suggest that shrikes play a role in selection for adaptative coloration in their prey. Selection against conspicuous prey has previously been demonstrated experimentally for owls (Dice, 1947; Kaufman, 1971) as well as for a number of small birds (Carrick, 1936; Isley, 1938).

Increased predation on agouti with respect to white mice in Experiment 1 conflicts with the concept of selection for concealing coloration. However these results agree with the concept of a specific searching image (Tinbergen, 1960) in that the shrikes took the more natural-colored mouse when both mice were relatively easy to see. Mueller (1971) suggests the specific searching image is very important in prey selection by hawks. The results of Experiments 1 and 2 suggest relative conspicuousness of the two prey is related to distance or cover of vegetation, and as relative conspicuousness decreases the importance of conspicuousness as a factor involved with prey selection decreases.

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House Sparrows feeding at night in New York.—Broun (Auk, 88: 924, 1971) regards House Sparrows, *Passer domesticus*, foraging for insects at night as unusual, and I believe it is. While holding a Frank M. Chapman Memorial Grant to study material in American museums I observed numbers of House Sparrows foraging for insects at ca. 23:30 one night in August 1968 in the floodlights around the observation floor of the Empire State Building in Manhattan, New York. The floor is some eighty stories up. For those who regard the House Sparrow as an interesting bird, Manhattan is not an ornithological desert.—R. K. BROOKE, *P. O. Box 1690, Salisbury, Rhodesia.* Accepted 31 Jan. 72.

An aberrantly colored Savannah Sparrow from Maine.—On 22 April 1970 I collected a Savannah Sparrow (*Ammodramus sandwichensis*) in Gardiner, Maine that was marked and colored in an unusual fashion (Figure 1). The pattern and extent of the coloration of the head and underparts are similar to those of a normally-plumaged Savannah Sparrow except that the usually buffy feathers are blackish-brown. This black color on the head extends to the submalar region and is broken only by a narrow, whitish malar stripe. Continuous with the dark facial pattern and extending down the sides of the neck and across the chest are black-centered feathers edged with rich brown. The chin and throat are white with a few feathers showing blackish-brown tips. The bill is somewhat aberrant also in that the maxilla is blackish and the mandible has a well-defined whitish patch that includes the tip and borders of the cutting edges.

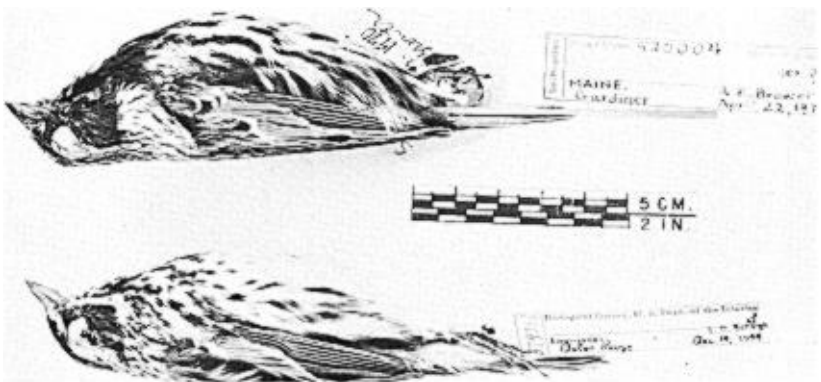


Figure 1. Aberrant (top) and normal Savannah Sparrows.