

**Heat insulation in the tarsi and toes of birds.**—It has puzzled many people why the feet of birds so not freeze in sub-zero temperatures, particularly in those species with bare tarsi. The answer is obviously insulation against loss of heat, but it is not often that one has an opportunity of getting much factual data on this point.

An opportunity came to the writer when camped in a tent in the Duck Mountains, Manitoba, during the second week of October, 1944. These mountains are in the Canadian Zone. During a stay of four days at East Blue Lake, the writer succeeded in taming four Canada Jays so that they would come racing to his hand when called from the forest and would come right into the tent at the far end and take scraps from the hand and even from the mouth. The approach to the interior of the tent was always the same—first on the grocery box near the entrance, thence either to the box stove or to an open pot thereon, and then to the hand.

As the weather was frosty, the stove was under full draft and the thin metal was, at times, almost red hot. When gripping an open half-gallon iron pot, the birds would stay there for 30 or 40 seconds. After some 15 seconds, they would stretch and close the toes alternately, apparently to permit radiation of the heat taken in. Several times, however, the birds stayed on the hot stove (when the pot was absent and while the flames were licking the roof of the stove) for from five to eight seconds, showing discomfort by crouching but still tolerating it. The heat was sufficient to make a drop of water flash into steam.

This observation has made me realize the marvellous insulation against the transfer of heat possessed by these birds. I am not aware of any research having been done to test and measure the conductivity of the tissues of the feet of birds but it would seem that this could very easily be done and might be a worthwhile contribution to our knowledge.—L. T. S. NORRIS-ELYE, *Winnipeg, Canada.*

**English Sparrow eating salt.**—From June 25 to 27, 1944, some interesting observations were made on the feeding habits of the English Sparrows (*Passer domesticus*) nesting on the farm of Miss Edith L. Hause, Route 5, Huntington, Indiana. There were two salt blocks in the barnyard for the use of the small herd of cows. From dawn until dusk there was a continual stream of sparrows visiting these blocks, pecking off small bits of salt. These sparrows must have obtained a much greater amount of salt than is needed to maintain their normal metabolic requirements. Certainly these sparrows were obtaining more salt than most other birds are able to obtain. Although I am unable to offer an explanation for the physiological need of such large quantities as were apparently consumed by these birds, I believe that these observations should be recorded.—JOHN B. CALHOUN, *Dept. of Biology, Emory University, Georgia.*

**The sequence of molt in Purple Grackles.**—Purple Grackles (*Quiscalus quiscula stonei*) trapped at Harrisburg, Penna., for banding studies gave an opportunity for observing the sequence of their postnuptial molting. Between March 19 and September 18, 1944, I trapped and banded 146 Purple Grackles. Evidence of molting, with new feathers, first appeared on July 23. The molting period extended until mid-September, and with other observed grackles until mid-October. The first feathers molted were those along the edge of the wing, the last were the central tail feathers. Individual check notes were tabulated on 52 birds, all adults with white irides. The sequence of molting was determined to be in the following order of feather groups: lesser wing-coverts, greater coverts, secondaries, forehead, crown, nape, rump, primary-coverts, upper tail-coverts, cheeks, neck, back, belly, under tail coverts, scapulars, proximal primaries, breast, chin, and finally the distal remige and then the median rectrices.