

Sun-bathing in Birds

by Doris C. Hauser, Fayetteville, North Carolina

Liz Roley's "Nature Notes" column in the **Leader-Post** of January 28, 1961, interested me with its description of a Black-billed Magpie (*Pica pica*) sunbathing. In the middle of the Qu'Appelle Valley, Liz Roley (Mrs. Elizabeth Cruickshank) observed a magpie fly "purposefully across the valley" to a sheltered ledge on an earth embankment facing south into the sun. The ritual performed by the bird as he took his dust or sand bath was described as follows: "He arched his back feathers until they were perpendicular spears. He made sidewise somersaults. He curved his body, his feathers pointing in all directions making him look like a spiked ogre. A series of acrobatics which followed made us hold our breath—we were sure he would fall to the ground below. For a while he remained perfectly still, his breast pressed into the sand, his beak wide open. Then abruptly, as though he had forgotten a part of the rite, he began to thoroughly dust his wings and tail. At last, he seemed satisfied to rest, comfortable and at peace. Finally, as the sun left his niche, he flew in bounding flight across the field to the dead trees along the river, calling as he went."

The careful reporting of Mrs. Cruickshank points up three characteristics of a typical incident of voluntary sun-bathing: it is premeditated and purposeful; it requires sun and protection from breezes sufficient to trap the heat; and it is apparently a therapeutic measure, affording a sense of well-being to the bird.

Sun-bathing is a form of bird behaviour which has received little attention in print until very recent years. Observation and study now indicate that it is one of several forms of pseudo bathing which are closely allied. Many of the postures and physical activities employed in the water bath are duplicated and exaggerated in sun-bathing and dust-bathing, smoke-bathing, heat-bathing and "anting." In addition, there are other postures and activities which are peculiar to these forms.

In pseudo bathing, it appears to be the presence of heat which acts as

the trigger and brings forth the "acrobatics" and assumption of postures both singular and unexpected in a bird. Any single incident may be a combination of one or more forms.

Although birds may be capable of discerning the therapeutic value of sunshine and heat, it is more possible that they indulge in the pseudo bathing activities because there is an element of pleasure involved. Observers have often mentioned the quality of "ecstasy" expressed by an "anting" bird. A sun-bathing bird, outstretched on a patch of hot sand appears to be in a coma but apparently enjoys it because it repeats the sunbath, with intermittent interruptions for preening sessions, over and over again.

On many occasions, a Taylor candy thermometer has registered 140°F. at a site where dozens of birds, of different species, were gathered to sun-bathe. A favoured sun-bathing site may be used repeatedly for years and though some birds may sun-bathe in solitude, it as often becomes a community affair.

One's first sight of a sun-bathing bird gives an immediate impression that the bird is suffering and dying. All its body feathers are raised high, the wings outstretched and tail fanned, and the head tilted to one side, with the bill wide open.

The bird may be ignorant of the beneficial results of the sun's radiation but the postures it assumes in sun-bathing positions make certain that the feathers, which form a barrier to the body's absorption of vitamin D, are raised and parted, and the skin exposed. The birds change their positions in relation to the sun so that as much as possible of the body surface is exposed to its rays. Some species of birds roll over on one side, fanning out a wing so that its underside is uppermost; some throw themselves onto their backs exposing the entire ventral surface to the sun.

It seems possible that a by-product of sun-bathing, in some species, may be the accelerated manufacture and release of the fine oil of the preen gland which is used for dressing the feathers. Careful attention to the plumage, with frequent recourse to

the preen gland, has been observed to be an integral part of the sun-bath of many birds. Studies have also indicated, though not conclusively, that birds may gain some benefit at each preening from the involuntary ingestion, by swallowing, of oil, applied to the feathers during an earlier preening session, which may have absorbed some Vitamin D from the sun. It has also been suggested that exposure to the sun may assist the bird in ridding its plumage of ectoparasites.

Midwinter sun-bathing records are far less common in my files than those of the more temperate months of the year and I have no other observations recorded in the presence of snow, or at an air temperature as low as 39°F. (Elizabeth Cruickshank, pers. corresp.) It is often the unusual incident which gives new clues to an

understanding of behaviour, just as an expanding file of more commonplace records help to show a pattern which, in its own way, is important.

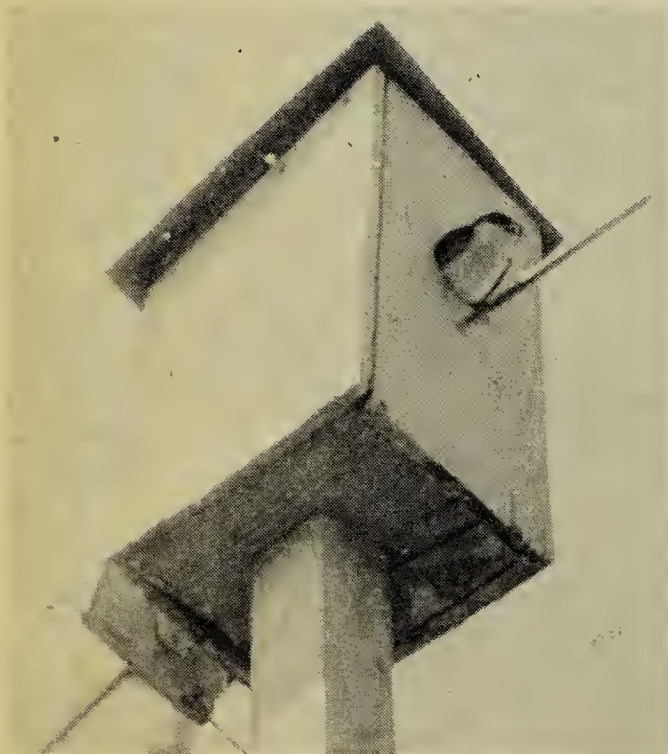
New species added to the list of sun-bathers, new locations and new postures, may all be important and helpful in defining the significance of sun-bathing in the life of the bird.

EDITOR'S NOTE: Doris C. Hauser (Mrs. Roscoe Hauser, Jr.) is an amateur ornithologist whose recent study on sun-bathing in birds (1957. *Wilson Bulletin* 69:78-90) has attracted considerable attention. Sun-bathing is a habit of birds which has been observed by nearly all who have an interest in watching birds, but there has been no previous extensive study of the subject. Still, the main basis of her research has been direct observations of birds in the field, an opportunity which is available to all of us. Her closing comments are appropriate: "The sun plays a vital part in the life-cycle of birds as it does for every living thing. It is hoped that this paper will draw attention to the subject and that observation and study of the effect of the sun on birds will follow."

Observations of Nesting Tree Swallows

THEY WILL NEVER COME

by Richard W. Fyfe, Great Whale River, Quebec



Our Tree Swallows' unpretentious home.

My title is quoted almost directly from the comment made by one of Saskatchewan's bird experts in reference to the situation I had chosen as a nesting site for Tree Swallows at my home in Regina. Of course, I naively asked "Why?" whereupon I received a most excellent answer



Approaching the nest box through a maze of power cables.

which made me wonder why I had ever dreamt of setting up a nesting box in such a location.

I had realized that I was a long distance from water. I had also seen that the birds would have to twist through a maze of power cables even to approach the site, and that they