

GENERAL NOTES

Lark Sparrow oiling its tarsi.—Elder's (1954. *Wilson Bull.*, 66:6-31) study of functions of uropygial glands of birds and his review of the literature prompt me to report a related activity of the captive male Lark Sparrow (*Chondestes grammacus*) whose behavior I have been studying for over a year. This bird was brought me by Jean Graber, who found it on a sidewalk in Norman, Oklahoma, apparently unattended by either of its parents, on June 10, 1955. We judged from the amount of natal down still clinging to feathers of back and crown, the quarter-inch length of exposed rectrices, and the way the bird sat upon its heels that it was about 10 days old. The sparrow was and has been vigorous, healthy, free of obvious ectoparasites, and apparently normal in every way. It will not dust-bathe but does take one water bath each second, third or fourth day. Tarsi and toes of the bird are sleek, smooth, rather glossy and of a pale flesh-pink color. Its pale horn-colored bill is smooth but not noticeably glossy.

Although it was in November, 1955, that the Lark Sparrow was first definitely known to oil its tarsi, I had noted, almost from the time it first began to bathe, that after the bath it made movements of the head toward the tarsi. But I had not given this much notice, believing the bird merely was trying to wipe water from its face. Close attention, however, soon showed that the bird was in fact oiling its tarsi. I now have watched this operation dozens of times at a distance of about 10 inches—the bird is completely trusting and strongly imprinted on me.

Typically, its behavior after the bath is as follows:

From the kitchen counter, where it bathes in a pie plate, the bird flies to the top of its hardware cloth cage and shakes itself vigorously. Then it begins to hop about, occasionally holding one wing or the other slightly out to the side with wrist somewhat lifted. It repeatedly wipes its face and the area of the eyes upon the cage top; also the bill alone sometimes is wiped there. During this short interval of hopping, shaking itself, and fluttering the wings, it will bring its widely spread tail around on one side, with rump feathers lifted, and begin to make incipient motions of the bill toward the oil gland. These preliminary movements are usually repeated on the other side before the bird at last puts its bill and face under the rump feathers. I can see the bill touch the skin there but cannot see actual touching of the uropygial nipple, though I feel certain this is happening.

After briefly touching the gland, the Lark Sparrow deliberately places one foot firmly forward on the cage top and rather quickly runs its opened bill down upon the front of that tarsus, from bend of heel to the toes. It pulls itself upright, places the other foot forward, and treats this other tarsus in like manner. Only *after* both tarsi have been oiled does the bird begin to preen, usually starting by pulling at mid-breast feathers and then stripping remiges of either wing. Preening and drying actions, continuing until the bird is dry, sometimes require 35 minutes. Once preening has started, the bird neither utilizes the oil gland nor employs the bill upon its tarsi. There are, nevertheless, one or two variations that may occur after the bath and prior to preening.

For one thing, after taking oil, the bird sometimes will oil, in the described manner, each tarsus as many as four times, on some occasions taking a second or third supply of oil to do so. For another, it will, additionally, treat its toes; but this is done on an average of about one time out of four.

Attention given the toes is curious. Movements are extremely rapid and hard to observe clearly. For a time I passed this off as scratching. Then I began to see that the bird was not scratching its face. The foot was brought directly upward to meet the

down-reaching head as it was being lowered; rarely was it brought forward over the wing as in normal scratching of head and face. Treatment of toes, when it occurs at all, takes place invariably after the tarsi have been oiled. With head bent down upon the lifted foot, the bird rapidly plays the bill over its toes. The act seems to involve more or less circular movements of both bill and foot, in lateral planes. Feathers proximal to the bill seem to be touched also by the toes. It is a question whether the bird is oiling its bill or its toes. Perhaps it is doing both.

An interesting feature of the entire oiling procedure is that treatment of legs and feet is never seen except immediately after the bath, and is always preceded by the taking of oil from the gland. The bird seems not to take oil during preening unassociated with bathing. I have never seen it preen directly after touching the gland. Sometimes the Lark Sparrow will bathe twice, with a period of a minute or two between. At such times, touching of the gland and oiling of legs and feet are done immediately following the first bathing but not after the second bath. However brief its bath sometimes may be, the bird never fails to oil its legs subsequently.

I have seen no published reports of this behavior, and none of several ornithologists with whom I have discussed the matter had knowledge of it. Yet, Mrs. Aven Nelson, Colorado Springs, Colorado, and formerly a member of the botany faculty at the University of Oklahoma, writes me that she has observed this same activity in a pet House Sparrow (*Passer domesticus*) belonging to her sister in Long Beach, California.

Elder (*op. cit.*) found that ducks with ablated oil glands developed, in addition to plumage abnormalities, dryness and cracking of skin on feet and legs. The bills of these birds became dry and peeled. He showed that the uropygial secretion is necessary in ducks for normal condition of bill but he did not say whether this also holds for normal condition of feet and legs. He offered no explanation for the fact that his experimental birds regained normal conditions of bills, feet and legs during their third summer.

The question of relating tarsal preening in the Lark Sparrow with the probable shedding of its tarsal scutes arises. Robert W. Storer (MS. 1952. The problem of the molt of the tarsal scutes of birds.), pointing out the paucity of information concerning molt of tarsal scales, states that ". . . it would appear that the scales of the feet of birds are molted at least once a year and that this may be under the influence of the annual endocrine cycles. This, however, remains to be proved experimentally."

There seems to be no description of such molt for *Chondestes grammacus*, and I have not been aware of it in this present individual. The bird's manner and frequency of anointing its tarsi have remained the same throughout the seasons and during plumage molt.

Behavior of the captive Lark Sparrow suggests that a primary purpose of the oil gland, at least in some non-aquatic species, may be other than providing oil for the plumage. Perhaps Eugene Law's paper (1929. *Condor*, 31:148-156), showing absence of oil in feathers of certain birds, should not be summarily dismissed (Elder, 1954:11) after all.—LOVIE M. WHITAKER, 1204 West Brooks Street, Norman, Oklahoma, July 1, 1956.

Feeding behavior of Red-tailed Hawks.—An uninjured immature Red-tailed Hawk (*Buteo jamaicensis*) was captured by hunters near Dearborn, Michigan, in December, 1948. The bird was placed in a cage two and one-half feet wide, six feet long and five feet high, with a broom handle providing a perch. When I banded the hawk on December 19, 1948, it weighed 793 grams. Periodically, dead mice and live English Sparrows (*Passer domesticus*) were introduced into the cage. The hawk captured the sparrows expertly. It would hold a sparrow under its talons, on the ground, for a minute or more.