

Sand-hill Cranes

AT MY HEELS

The rising waters of a reservoir called for drastic changes in the lives of two rare birds and subjected the naturalist to heavy responsibilities

By WALLACE BYRON GRANGE*

Photographs by the author

STARS were shining, great horned owls were hooting, as I hid in the willows and alders of the point thrusting into the marsh. It was 4:21 and I was late; red-winged blackbirds were already singing. American bitterns made their pumping sounds: "Ka-kump-ump, ka-kump-ump." Marsh wrens sang. A greater yellowlegs fluted. From somewhere in the sky came the quavering winnow of a jack-snipe. I swept my binoculars over the brown marsh, which was now

assuming a faint yellow tinge. There, looming up against the white wall of mist, were the three dead tamarack trees that marked the location of the nest. Through the glass, I searched the huge expanse of marsh around them, but I could see nothing. Of course, it was still quite dark.

From the low cliffs of woods hemming the marsh, the drumbeats of ruffed grouse rolled and echoed in the chilly stillness. A great blue heron flapped past, dis-

*RECIPIENT of the coveted John Burroughs Medal this year for his book *Those of the Forest*, the author of this article deserves credit not only for his ability as a writer and naturalist but also for his determination in the face of discouragement. For the prize-winning book was "the stone that the builders rejected." Refused for commercial publication, it became just

as much a home-grown product as the sand-hill cranes in this article. Mr. Grange and his wife undertook to print the book on their own and established The Flambeau Publishing Company to do so. They have had good success selling it; and NATURAL HISTORY feels honored to offer its readers the first article Mr. Grange has written since that brilliant work.—ED.

▲ PORTRAIT of a sand-hill crane at 61 days. The juvenile feathers of forehead and crown later disappear, and the top of the head becomes bare except for bristles. Few persons have had opportunity to see this bird at such close range. It is wary, and Wisconsin's total population went down to less than 50 birds not long ago.



▲ THE PARENTS, photographed the day before the eggs were taken from the nest to save them from flooding. The forward bird, after running with beating wings, has just leapt into the air. The higher bird, already fully aloft, will shortly straighten out its "landing gear" beneath the tail.

➤ THE TWO LARGE OLIVE-COLORED EGGS, with lilac and deep brown blotches. Sand-hill cranes usually make their nests in water, but this one would have been drowned by the new reservoir.

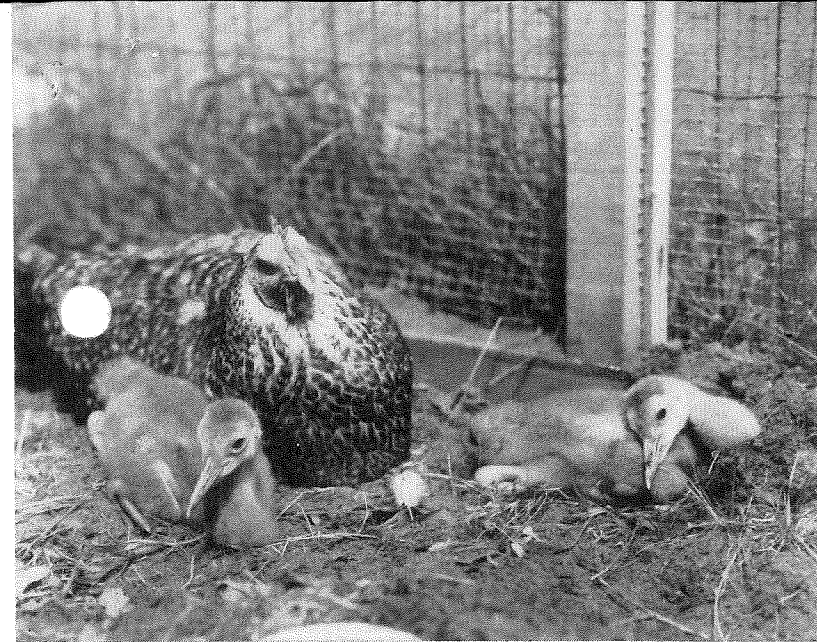


➤ ONE OF THE YOUNG CRANES on its fifth day of life. It is growing rapidly and has already gained much weight. The thick leg joints, short bill, and odd little wings are characteristic. At this age, young cranes are lively and are able to follow their parents through the marsh.

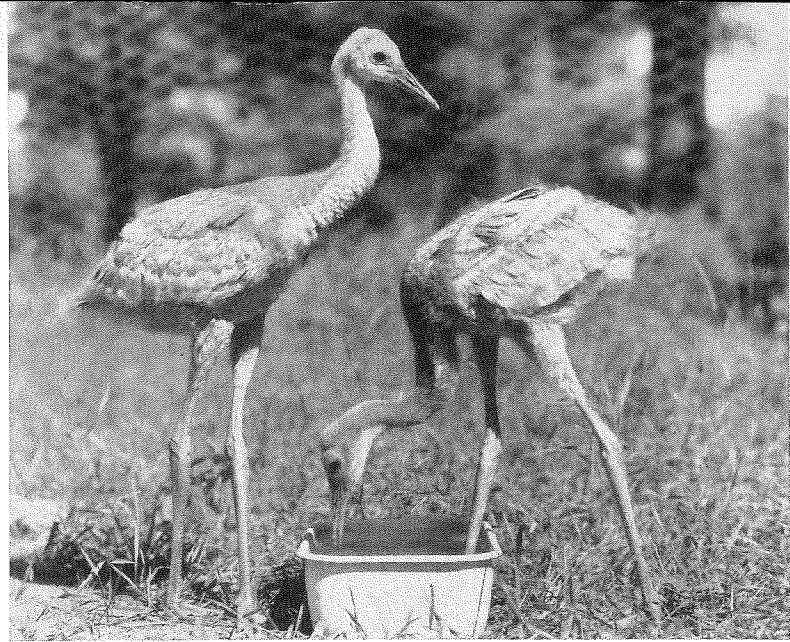


appeared in the mist. A fox barked. As light increased, I continued to listen and to search the grasses and sedges near the tamaracks. Many minutes passed and I saw nothing. I heard the first scarlet tanager and rose-breasted grosbeak songs of the year; the call of a crested flycatcher; the quacking of mallards. All of the characteristic sounds of May ninth in the interspersed marsh and woodland country of central Wisconsin seemed to be present—all except the ones I most wanted to hear: the throaty trumpeting of sand-hill cranes.

Cranes ordinarily call from or near the nest before sunrise. The absence of their calls seemed an ominous indication that something was wrong. A splash of green aspen leaves in woods that had been dark told me that if sand-hill cranes were



▲ THE HEN that brooded the eggs became a foster mother but had no talent in bill-feeding. The birds are now 11 or 12 days old. They frequently slept with the head slung onto the back as at right. They sometimes sat or stood under the hen's tail feathers.



▲ At 37 and 38 days, Silver and Turk were nearly covered with feathers and had begun to look like adult sand-hill cranes.

present in this marsh I ought to see them; but there was no sign of them. As the rim of the sun came over the trees, I was greatly worried. Had I muffed the opportunity of a lifetime?

I thought of the many natural hazards that crane nests face, and of the abundant raccoons that prowl the marshlands seeking eggs and other choice foods. At dusk last evening I had verified the location of the nest. Two sand-hill cranes had leaped into the air near the dead tamaracks. They had flown low over the grasses, then alighted, scolding until the marsh rang with their cries. I had seen their nest, a mound of dried grasses and sedges, and in the shallow saucer of its top, two large olive-colored eggs with lilac and deep brown blotches. The eggs might easily have been destroyed during the night. If nest and eggs were safe, why should I not see the crane that was off duty? Why had they not called? Why had I not taken the eggs last evening, without waiting for further observations or photographs?

My mission was to save the eggs, for these cranes had nested in a cranberry reservoir held dry over winter but now being flooded. Their nest was doomed. At 5:30,

dismal over my failure, I began slogging toward the dead tamaracks, although it seemed superfluous to verify the fact that the hay-mound nest was empty.

A scarce bird

With each step through wideleaf sedge and bluejoint grass, I sank into sphagnum moss, shallow water, and peat. Here and there were wild cranberries and pitcher plants. A century ago, this marsh was a tamarack forest, with openings where wild cranberries and pitcher plants must have been abundant. Today, tamaracks, wild cranberries, and pitcher plants are uncommon, even rare. In those days, there were no sand-hill cranes in this part of Wisconsin, for they lived then upon prairies to the southward. Now the prairies are gone, and of course their cranes, also. But as the central country was opened up and transformed by fire and by man, cranes invaded, and now this acquired range is their stronghold.

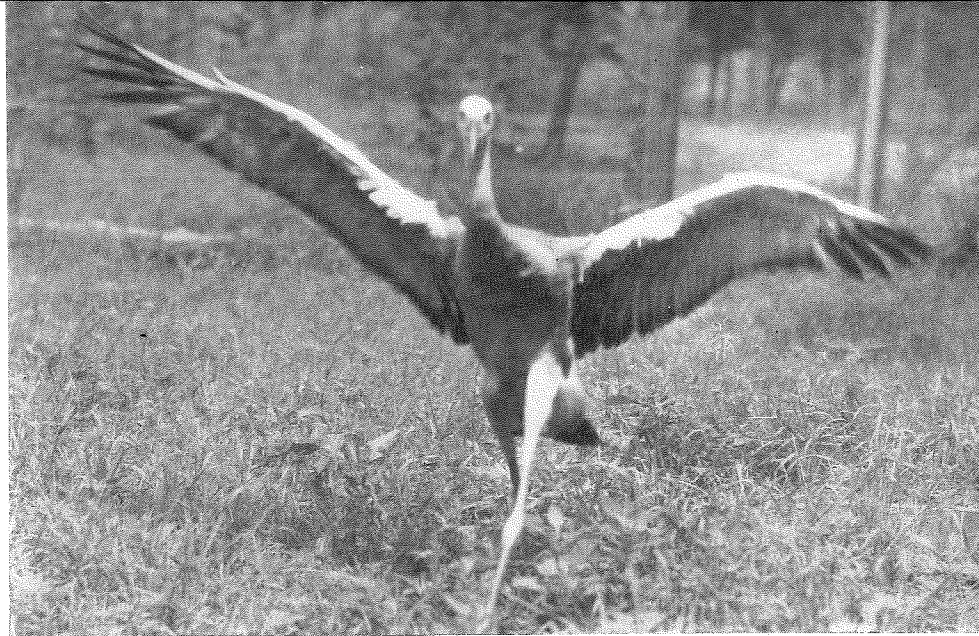
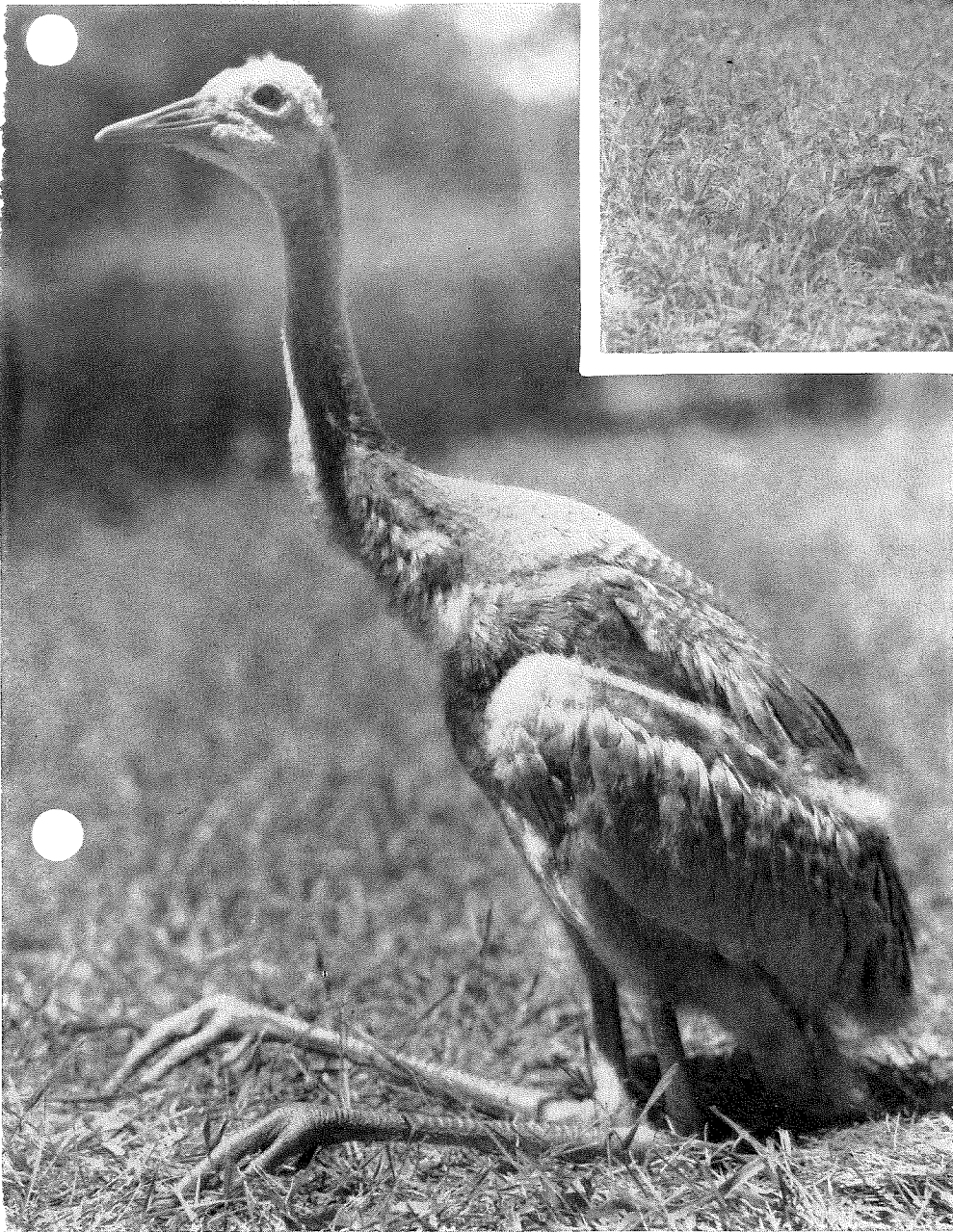
Even fifteen years ago, Wisconsin's sand-hill cranes appeared doomed to extinction, for fewer than 50 survived. Recently, for unknown reasons (for the increase extends to other regions as well), cranes have increased to more than 200. This is unquestionably due in

part to the creation of numerous shallow impoundments in central Wisconsin, which have expanded the marsh type of habitat. Cranes are exacting in their environmental requirements. They must have open country, now commonly consisting of huge marshes or of smaller ones in series; and they require pools or ponds, and some upland habitat as well. These conditions are met in Wisconsin today only where such favorable land uses as cranberry culture occur, or where man has not yet come to claim wild marshlands for the plow or for livestock. Landscape and vegetation change rapidly with settlement, and our expanding population is making greater and greater demands on formerly wild country. We may well ask what will happen if our organic marsh soils become needed for standard crops? Will there still be homes for sand-hill cranes?

At 300 feet from the tamarack skeletons, there was still no sight or sound of cranes. Nor at 200 feet. Nor at 100. "No doubt about it," I thought, "Something got those eggs!"

But I slogged on. At 75 feet, there was a sudden great flapping of huge wings as a gray sand-hill jumped, leaped, and bobbed through the grasses, half-flying and

▼ NOT AN OSTRICH OR A HERON but a 41-day-old sand-hill crane resting on its hocks to take the sun.



▲ At 59 days, Silver flew 10 feet. Here at 61 days she is running with outspread wings in an experimental flying maneuver.

a characteristic primeval wildness, adding something that I should miss greatly if I could not hear it each spring.

As I watched, hidden in the thicket, the birds became quiet. The gray crane walked about alone, head still thrust forward, scrutinizing the marsh and woods intently. Meanwhile the brown crane stood erect, motionless, watching also. After some moments, the brown bird relaxed, then walked sedately and slowly toward the dead tamaracks. It stopped, thrust its head down into the grass, raised it and lowered it again, then settled out of sight on the nest. The gray crane then flew silently from the marsh, over the trees. The two had exchanged turns incubating their eggs. I had seen the changing of the guard.

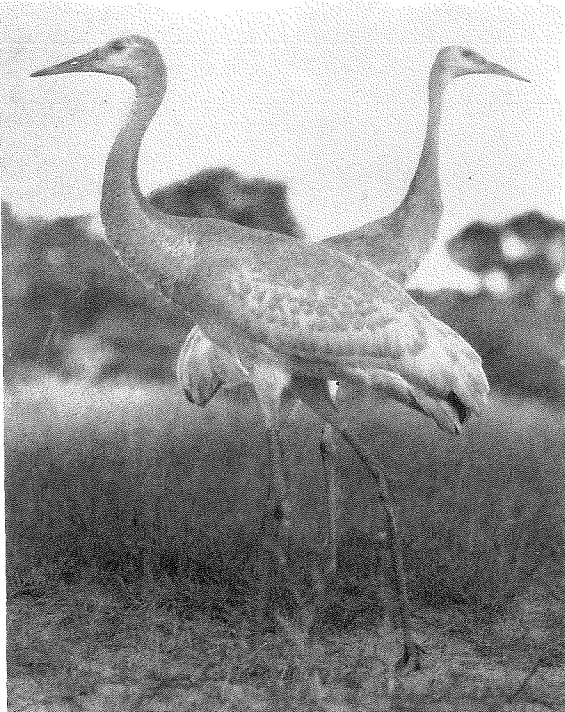
Later, I returned to the nest with a camera and a substantial box. The brown crane flushed at 200 feet, calling; and soon its mate flew into the marsh. Both were frenzied in their attempt to attract me from the nest, but they stayed a cautious distance away.

This caution is typical of sand-hill cranes. Although their powerful voices advertise their presence to those who recognize them, they are exceedingly wary during the nesting season and are skillful in keep-

silent. It alighted 200 feet away, then commenced running with wings outstretched conspicuously, no doubt inviting pursuit. "The eggs are safe!" I thought, and without approaching the nest, I turned back.

The gray crane now became noisy. Just after I gained the willows, its mate, a brown-colored crane, flew silently into the marsh from low over the woods. Immediately, the two tall birds began walk-

ing about tensely, side by side, heads and necks held stiffly in an angular forward-thrust position, calling in unison. These were alarm calls, deep-toned but with a creaky or rattling quality. Crane trumpeting, too, which is somewhat lower in pitch, contains this rattling element when heard close at hand; but at a little distance all sand-hill crane sounds impress me as being melodious, for the creaking drops out. Crane music stamps a country with

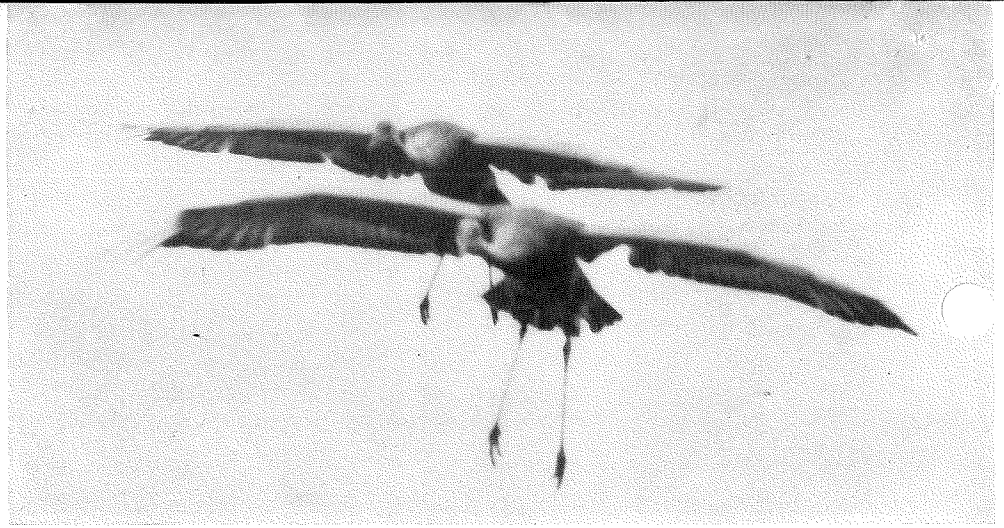


▲ TURK AND SILVER had nearly complete juvenile plumage at 65 days. Note the prominent nostril opening.

ing out of sight. Often they select marshes that provide concealing screens of willows or trees or are remote and inaccessible. One can scarcely believe that such large birds, standing three feet tall and having a wingspread of five feet, can so successfully elude observation even when their nesting marsh is known. Cranes are conspicuous when walking about in open grass, and they survive through alertness, caution, and the protection afforded by difficult wild country, as well as because of protective laws and suitable migrational and wintering refuges. They prefer wilderness, yet they tolerate man, if he does not persecute them or come too close and if there is suitable marshland.

After securing photographs, I placed each egg inside a heavy glove, wrapped them in woolen cloth, and put them inside my box.

As I left the marsh, the cries of the cranes were ringing painfully in my ears. I was a thief. They knew it, and I knew it. I think I understood correctly how the two cranes felt. To them I was a mortal enemy. They could not know that



▲ COMING HOME in close formation after a flight around the Corner Marsh.

my motives were friendly. They could not know that the distant sound of running water meant the flooding of their nest, the doom of their eggs. I felt a deep sympathy for the cranes, and a great responsibility for the custody of their two eggs, but unfortunately one cannot convey such ideas to wild creatures.

At the car, I filled a hot water bottle from a vacuum jug and placed it inside the box to maintain warmth. After a 40-mile auto trip, the two crane eggs were placed beneath domestic hens incubating duck eggs.

Successfully hatched

So, on May 18, I held the first very reddish, heavily-downed (I almost said "furred") crane in my hand. It was about five inches high, standing up. Its bill, feet, and legs were pinkish and swollen (which is normal); the "knees" seemed enormous. It could walk about, but it was very wobbly. It fell, cheeped, and preferred to remain still. Its first food was a bit of hard-boiled egg, which it did not like; then a house fly, and a small bug, and nearly an ounce of chopped raw beef. When I placed the sand-hill beneath a heat lamp, it cheeped plaintively, not for lack of warmth, or from too much, but apparently from loneliness, for the instant I took it into my hand again it slept contentedly.

The second crane hatched on May 19. I brought them home with the hen, made a pen indoors, and slept near it. I watched over them

day and night, pondering my responsibilities, for after all I did not know their language, or they mine, and there were difficulties to be overcome. My work suffered serious neglect, but what did that matter—I had two sand-hill cranes!

Until the ninth day, Turk and Silver (as they were eventually named) did not learn the significance of the "farm yard" hen's clucking calls. They refused to pick food up from the ground. Young cranes are fed from the bills of the adults, a technique the foster mother did not understand very well. I bridged the difficulty by hand-feeding every morsel, but at first it was not easy to get them started eating. Their attention seemed to wander, and I could not direct it. When they saw a fly or angleworm particle held out for them and attempted to peck, their aim was extremely inaccurate; they frequently missed the target several times before succeeding.

They were attracted to things of red, which may be a clue to the usefulness of the bare and very brilliant red forehead-crown patch of mature sand-hill cranes. It may serve to attract the attention of very young cranes to the parent's head and bill. But it is also very beautiful, and perhaps its ornamental value leaves no need for further explanation.

At two days of age, now less wobbly, but nevertheless a little unsteady on their feet, Turk and Silver not only ran and jumped but began to dance and to fight. Their

dancing was typically juvenile; leaping up, bouncing, skipping. The fighting was savage. The two cranes stood high, face to face, then rushed, pecked, kicked, and cheeped—and pulled. Usually Silver, the first-hatched and slightly the larger, sent Turk sprawling on his back. Sometimes it was the other way round. Neither one was hurt in these combats, but since I forcibly separated them on several occasions, I cannot say that no damage would have occurred; nor would I discount the possibility of accidental drowning or other dis-

aster in the wild resulting from it. Later, when Turk and Silver were fully feathered, I saw them fight only twice. Both combats were vicious. Each crane would leap above the other and strike with its feet, sending its adversary sprawling. They seemed evenly matched. Aside from these sudden fights, which ended with equal abruptness, Turk and Silver were not only friendly but inseparable. The significance and importance of early fighting (which is far too rough to be called play) is an unknown part of sand-hill crane life history. Their dancing soon developed to the point that whenever I approached their pen, they would come skipping, leaping, and flapping their wings, to meet me.

Turk and Silver grew so prodigiously that sometimes I thought I could see the difference from hour to hour. It was very evident from day to day. They thrived on a spe-

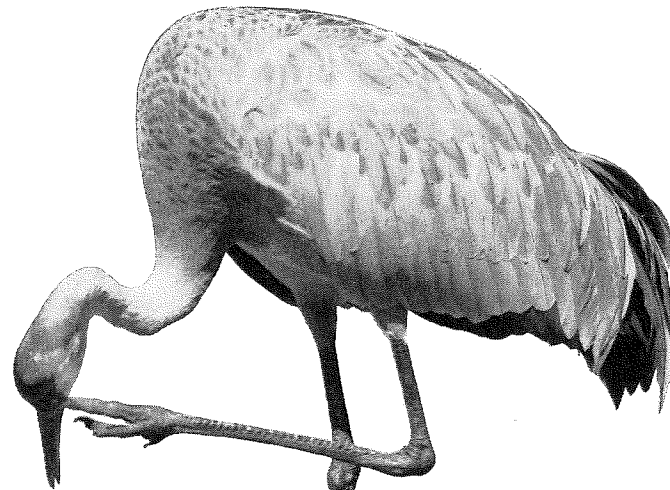
cial diet of crayfish eggs and meat, frog muscle and liver, chopped minnows, raw beef, insects, eggshell, occasional rolled oats, worms, canned peas, canned corn, and canned apricots. Small moths in the grass, and later grasshoppers, were favorite foods as the birds grew older, and then came corn, wheat, and wild rice.

The cranes were much attached both to me and to the hen. I was always immensely pleased when they chose to tag along at my heels rather than to follow her. Their need for the hen rapidly diminished. Even at first, they had encountered some difficulty in finding enough room beneath her when being brooded. As they grew larger, they deserted breast and wing feathers to stand or sit entirely concealed in the feathers of and around the tail. Then even this became unnecessary, and they sat close to the hen simply for companionship. At



◀ SILVER in adult plumage, showing the bare crown and forehead area. The primary feathers are remnants of the juvenile plumage that are retained for more than two years.

➤ SILVER SCRATCHING: A study in balance and articulation.



◀ SILVER in "invitational" pose. This posture is believed to signify readiness for mating and is the basis on which Silver is judged to be a female.



five weeks, when the cranes were nearly two feet tall, I took the hen away.

We had already formed the habit of going for walks daily. Turk and Silver looked forward to these as much as I did, and if our walk was postponed or delayed, they would become nervously impatient, pacing about, cheeping. Sometimes we would go to the field, hunting grasshoppers. They had outgrown the water dish in which they had formerly bathed, so we often went to the marsh, where they splashed and bathed with a great commotion of beating wings and rapid dipping of heads.

Spreading their Wings

As summer progressed, pinfeathers poked through the fading and now buffy rather than reddish down; then the tips of the pinfeathers burst and real feathers began to emerge, unfolding like little fans or opening flowers. Eventually, the bluish, basal sheath enveloping the shaft of each feather was shed, as was also much of the down the feathers replaced. As the long flight feathers of the wings grew and began to harden, Turk and Silver began to try their wings, standing on tiptoe while flapping them. At 59 days, Silver flew ten feet. Each day thereafter, trying to fly was a part of our daily regimen. The most I could do to assist was to run rapidly away, both cranes following, taking to their wings to keep up. I was proud of them when they flew 50 feet, then 100. It was not long before they flew the quarter mile length of the field.

As we explored marsh borders, I was at some loss to know what any of us ought to find by probing and digging in the mud, which Turk and Silver enjoyed. In fact, I have not yet found out even from observing wild cranes and then searching an inch or two beneath the surface of the wet peat where they were digging. So far as I know, Turk and Silver never found anything of edible value, but their probing was endless. I had the feeling that probing was instinctive, but

that, deprived of their rightful training, they did not know what to probe for; or perhaps where. I am convinced that sand-hill cranes have a great body of tradition, which I would define as *learned habits handed down to succeeding generations*, from old to young. Since I was unfamiliar with crane traditions, I often felt keenly that Turk and Silver were not being properly educated.

On our walks there were blueberries, dewberries, and blackberries, and later acorns and hazelnuts. I picked most of the berries and handed them to the cranes, but they learned eventually to pick blackberries for themselves. However, they disliked to enter brambles and were reluctant to enter woods unless I coaxed them. Neither bird ever learned to crack acorns or hazelnuts, but they closely watched me as I did it and would eat the nutmeats as quickly as I produced them. Once Silver ate a small snake. It disappeared so quickly that I could not be sure, but I think it was a garter snake.

In late summer, grasshopper hunting was their favorite pastime, and this was the one prey that they systematically stalked, heads down in the grass, peering this way and that as they hunted. They but rarely chased grasshoppers; they secured them where they rested upon blades of grass, by a quick dart of head and bill.

Deprived of wild companions, Turk and Silver accepted people, almost as dogs do. Cranes apparently mate for life and are devoted family birds. They greatly enjoy companionship, and outside the nesting season commonly gather and feed in groups or flocks.

Silver acquired the nickname "Straw Boss," because she seemed to superintend every outdoor human activity, whether ditch-digging or nailing something together. She gravitated to such proceedings, sometimes merely watching, sometimes flapping wings, sometimes pecking at shiny objects such as nails, tinfoil, rings, or spectacles. She broke my metal wrist watch

The little animal
has been given
a rough time
in front of the
movie cameras.
Few realize how badly
he has
been miscast

By
JAMES A. OLIVER
Curator of Reptiles
New York Zoological Society

YOU can credit the wonderfully versatile Rudyard Kipling with the mongoose's worldwide pre-eminence as a snake killer. In real life, Rikki-Tikki-Tavi doesn't deserve the reputation he has been given.

Let's look at the facts.

The mongooses (not "mongeese") are small weasel-like mammals related to the civets and genets of the Old World and belonging to the family Viverridae of Africa, Asia, and southwestern Europe. Many different kinds of mongooses are known in these countries. All are voracious and usually vicious predators, but some can be tamed as docile and dependable pets. In the wild they feed on all manner of small animal life—grasshoppers, crabs, frogs, lizards, snakes, nesting birds, rats, mice, and the like. When we use the term "mongoose" without further specification, the small Asiatic species, *Herpestes auropunctatus*, is the form referred to, for it is the familiar one of the Kipling story. This animal is also known as th

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strap almost before I knew it. The cranes disliked to see me depart in the auto or ride away on a tractor. In addition to protesting vocally, they would sometimes fly along until it was necessary to turn around and place them in charge of someone who could divert their attention.

One day we walked three miles on sandy wooded trails and past marshes. I would stop while my birds ate grasshoppers and blackberries and splashed and waded in the water. It was a hot day, and we rested in the shade from time to time. We were making an extended circle, the last portion of which was suggestive of walking through an oven. When we were still a mile from home and had come to a little opening, the cranes apparently decided that all this walking was very stupid; they ran, took off, lifted over the trees, and left me to finish my walk by myself. Fifteen minutes later, when I came panting up to the house, there were Turk and Silver, nonchalantly preening their feathers, and obviously quite oblivious of my wounded feelings.

Call of the Wild?

I remember another walk in early autumn. Turk and Silver had taken wing and were circling the half-mile-long Corner Marsh. They were beautiful to see, and I was proud of them. I stood waiting for them to come back; to alight beside me in the field. They swung around the marsh twice more, turned northwest in the direction of marshes where wild cranes lived, and then flew, and flew, and flew—far beyond sight. After all, Turk and Silver were free, and if they wanted to go wild, that would in a way be a great triumph; yet I could not wish it because they trusted humans too implicitly. In a month or two they might start off with their fellows for the South—a 1000-mile journey to the wintering grounds—and sooner or later they would approach a man with gun or

club, and their friendship for people would lead to their own destruction.

Once I had watched a flock of cranes begin their southward journey. They had started by circling, as Silver and Turk had just done, but rising higher and higher in great sweeps, chimneying up, and up, and up, until they became specks in the sky, wheeling upon set wings, and drifting southeastwardly, trumpeting and bugling in a continuous chorus; and the sound was soft, ethereal, with an indefinitely moving quality. The flock disappeared for another season. The music faded, yet lingered with me. It would be wonderful if Turk and Silver—but I had not even said "Good bye!" If only I had been able to teach them proper crane traditions, to be eternally wary, to fear men, to trust no one, and to forage and glean a natural living. I should have been happy to have seen them go. But I could not tell what they might do, or whether they could, or would, learn wild ways. As I waited wondering, the minutes were very long. Then, above the woods, I saw two great birds flying side by side, wings beating rapidly, the tips of the primaries spread, long necks and legs extended full; and they were the most graceful, the most beautiful, of all the wonderful birds I have ever seen. In another few moments, two sand-hill cranes lowered their legs, slowly tilted their wings for landing, came down with a few bounces and a short run, and then walked toward me, talking softly. It was the sound I most wanted to hear, for it told me that Turk and Silver did not want to go wild. I thought of the bugling music of the wild flock drifting South, of the great wheeling circles with earth far below, of how marvelous it would be for my birds to be part of the vast, wild, migrational adventure, and I was very sad, but at the same time I was also very happy—as we set off down the field to hunt grasshoppers together.