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Hummingbird Studies

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ILLUSTRATED BY HERMAN T. BOHLMAN

I WAS standing on the hillside one May morning when two hummers caught my attention. One whirred downward like the rush of a rocket. He ascended, whirling up till I could see only a blurred speck in the blue. Then he dropped headlong like a red meteor, with his gorget puffed out and his tail spread wide. Instead of striking with a burst of flying sparks, he veered just above the bushes with a sound like the lash of a whip drawn swiftly through the air, and, as the impetus carried him up, a high-pitched whistle burst in above the whir of his wings. Again and again he swung back and forth like a comet in its orbit. If he was courting, his aim was surely to dazzle and move with irresistible charm. I think his method was to sweep at his lady-love with a show of glittering brilliancy and gorgeous display and win her heart in one grand charge.

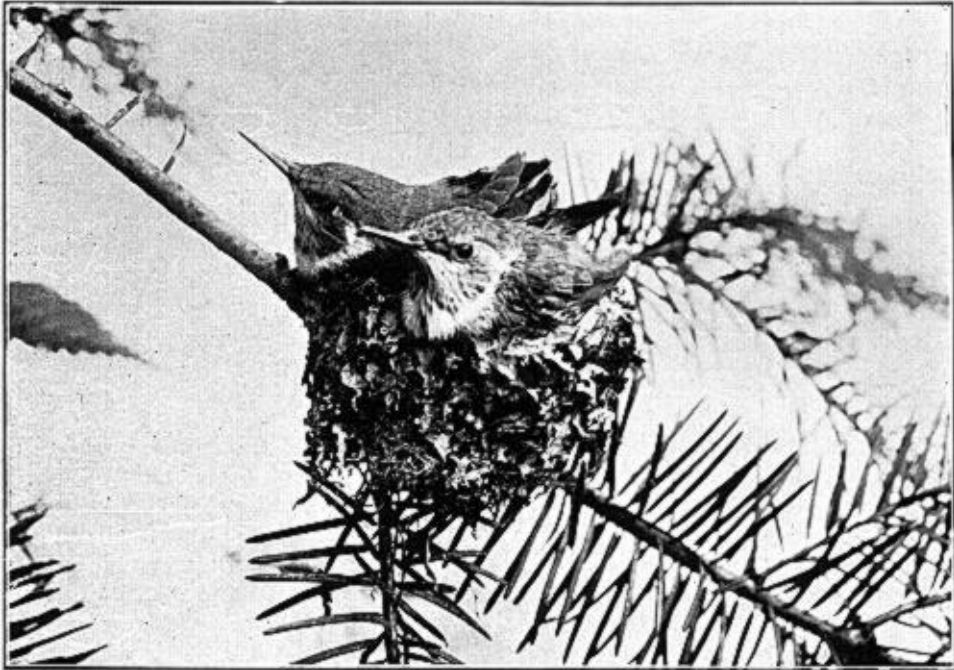
He must have won her for they took up a homestead in the Virginia creeper just at the edge of the porch. I saw her collecting spider webs and down from the thistles, and then as I watched her building, it looked to me as if a bill for probing flowers were not suitable for weaving nests. Perhaps it would have been more convenient at times if it had been shorter, but she wove in the webs and fibers, whirred around and around and shaped the sides of her tiny cup as a potter moulds his master-piece. Then she thatched the outside with irregular bits of lichen.

The rufous hummingbird (*Selasphorus rufus*) seems to adapt itself better to the Oregon climate than many of the other birds. A hard rain creates havoc among the birds in nesting time but this hummer has profited by the experience of the past. Out of twenty-three different hummingbird nests, I found the major-

ity built so they were entirely under shelter. Three were in vines directly under bridges, two in Virginia creepers under porches, another in a blackberry bush under a log and so on, where any amount of rain could not bother them.

When the day was warm the mother did not brood long at a time; five minutes was quite a long spell. It often seemed to me the tiny eggs would chill through before she returned, but after a few days they began to lose the flesh tint of pink and changed to a dull lead color. In just twelve days the pink capsules had developed into creatures that looked exactly like two tiny black bugs, with a slight streak of brown extending down the middle of their backs. In a few days more the little brats began to fork out all over with tiny black horns and then from the end of each horn grew the downy plumes of brown.

One day I crawled in close behind the bushes at the side of the nest and hid myself carefully. The mother darted at me and poised a foot from my nose, as if



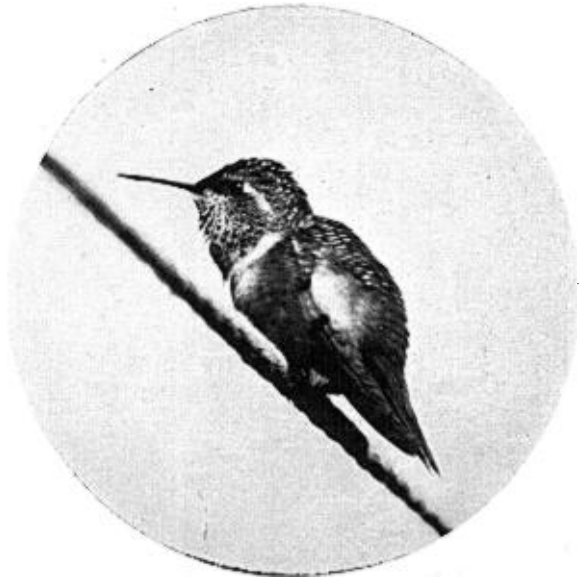
RUFOUS HUMMERS FULLY FLEDGED

to stare me out of countenance. She looked me over from head to foot twice before she seemed satisfied I was harmless. Then she whirled and sat on the nest edge. After she had spread her tail like a flicker to brace herself, she craned her neck and drew her dagger-like bill straight up above the nest. She plunged it down the youngster's throat to the hilt and started a series of gestures that seemed to puncture him to the toes. Then she stabbed the other twin till it made me shudder. She was only giving them a dinner after the usual hummingbird method of regurgitation but it looked to me like the murder of the infants.

I have never seen a hummingbird fledgling fall from the nest in advance of his strength as a robin often does. When the time comes, he seems to spring into the air full grown, clad in glittering armor, as Minerva sprung from the head of Jove. While I lay quiet in the bushes I learned the reason. One youngster sat on the nest edge, stretched his wings, combed out his tail, lengthened his neck and

preened the feathers of his breast. Then he tried his wings. They began slowly as if getting up steam. He made them buzz till they fairly lifted him off his feet. He had to hang on to keep from going; he could fly but the time was not ripe. A little gnat buzzed slowly past within two inches of his eye. The nestling instinctively stabbed at the insect but fell short. Each bantling took turns at practising on the edge of the nest till they mastered the art of balancing and rising in the air.

Below the hummer's nest the water trickled down the basin of the canyon. One of these tiny pools was the hummer's bath-tub. It was shallow enough at the edge for her to drop her feet and wade. For a moment her wing-tips and tail would skim the surface and it was all over. She dressed and preened with all the formality of a queen. After the bath I watched her circle about the clusters of the geranium and drink at the honey-cups of the columbine.



ADULT RUFIOUS HUMMER SUNNING ITSELF ON CLOTHES-LINE



YOUNG RUFIOUS HUMMER

She seemed only to will to be at a flower and she was there; the hum of the wings was all that told the secret. She was a marvel in the air. She backed as easily as she darted forward. She side-stepped, rose or dropped as easily as she poised.

I have never known exactly what to think of the male rufous. I never saw such an enthusiastic lover during the days of courtship and the beginning of house-building. He simply ran crazy-mad in love. As soon as the cottony cup was finished and the mother had cradled her twin white eggs, the father disappeared. He merely dropped out of existence, as Bradford Torrey says, leaving a widow with the twins on her hands. This generally seems to be

the case, for at the different nests where I have watched, I never but once saw a

male hummer near the nest after the young were hatched. I was lying in the shade of the bushes a few feet from the nest one afternoon. For two whole days, I had



YOUNG RUFIOUS HUMMERS ON NEST IN BLACKBERRY BUSH

been watching and photographing and no other hummer had been near. Suddenly, a male darted up the canyon and lit on a dead twig opposite the nest. He hadn't settled before the mother hurtled at him. I jumped up to watch. They shot up and down the hillside like winged bullets, through trees and over stumps, the mother, with tail spread and all the while squeaking like mad. It looked like the chase of two meteors, that were likely to disappear in a shower of sparks, had they struck anything. If it was the father, he didn't get a squint at the bantlings. If it was a bachelor a-wooing, he got a hot reception.

I can't believe the male rufous is an intentional shirk and a deserter. I think somewhere back through the generations of hummingbird experience, it was found that such bright colors and such devotion about the home were clues, unmistakable for enemies. It is therefore the law of self-protection, that he keep away entirely during the period of incubation and the rearing of the young.

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The Future Problems and Aims of Ornithology

LETTERS FROM PROF. ALFRED RUSSEL WALLACE, DR. LEONHARD STEJNEGER,
AND DR. PHILIP LUTLEY SCLATER

EDITORIAL NOTE. Occasionally it is said, half seriously, that ornithology is becoming overworked, and this sentiment is usually evident in some of the less scientific literature of the day. Perhaps it is not stated boldly, but an acute reader may sometimes peruse between the lines. Concerning strictly scientific ornithology I am optimistic, because the limits of work in this line depend upon the limitations of the worker. In other words if a science, and especially one of the biological sciences, begins to play out, as it were, it is usually a good sign that something is wrong either with the scientist or his methods, or with both.

Recently I sent a number of questions to several well-known ornithologists with the intention of gaining their ideas concerning the future aims of ornithology, and its special problems. A few indulgent scientists have kindly responded, and I feel sure the letters will prove of more than passing value to professional