

On May 31 the Williamson Sapsuckers were evidently incubating, for on this date the only activity about the nest site was when the birds changed places. We saw the male bird come out of the hole and the female go in. There was no sound of young voices.

On June 17 we again visited the home tree of the Williamson Sapsuckers. When we arrived, about ten o'clock, both parent birds were bringing food. We watched the birds for an hour and a half and in this period of time the male made nine trips to the nest hole and the female made seven trips. The young were small, as the parent birds went completely into the nest hole. The birds, male and female, always came onto the tree trunk above the nest hole and hitched jerkily downward until on a level with the hole. They landed anywhere between five and fifteen feet above the hole; the female was likely to land nearest to the hole. If an auto happened to be passing when the sapsucker was hitching down, the bird would quickly dodge around the tree; but the mere passing of an auto never caused either of the birds to leave their tree.

About every other trip excrement was carried from the nest. When the male cleaned nest he carried the feces away and dropped them some distance from the nest. When the female cleaned nest she came to the entrance from within, looked about and then dropped the refuse before leaving the nest hole. Directly under the nest hole there was a litter of droppings and we thought as we examined the droppings that such untidiness under a nest hole might thenceforth indicate to us that the occupants of a site were Williamson Sapsuckers, inasmuch as all other woodpeckers we have known are particular to carry the refuse far from the nest tree.

Occasionally the parent birds would arrive at the nest hole simultaneously, or nearly so, and in such case the male would always hold back and allow the female the right of way. When the sapsuckers met at the nest site they exchanged greetings in a "rubber doll" tone of voice. This nasal quaver of notes was remindful of a call often sounded by the Red-breasted Sapsucker. Another call that was occasionally shouted from the tree-tops was shrill and like that of a Red-tailed Hawk.

On this same day (June 17) we discovered another pair of Williamson Sapsuckers feeding young. The nest hole was about thirty-five feet above the ground in a dead white fir. This was the first time we ever found Williamsons nesting in anything but lodge-pole pines. However, this tree was evidently also an ancestral home tree as there were six old holes. Again the birds of this pair employed the unique habit of hitching down to the nest hole instead of up as most woodpeckers do. Also there was the litter of droppings under the nest.—CHAS. W. MICHAEL, *Yosemite, California, June 19, 1934.*

Observations on a Captive Pygmy Owl.—During a field trip in Monterey County, California, in 1933, one of these small diurnal owls (*Glaucidium gnoma grinnelli*) was captured and, from May 31 to June 8, was kept in captivity. The bird seemed tractable and was never aggressive toward us. His most vigorous reaction to our presence consisted in clicking the mandibles together. At no time did he make any attempt to defend himself either with the rather formidable claws or beak. The owl was always alert and followed every movement near his cage with his sharp, piercing gaze.

We supplied our captive with fresh-killed *Peromyscus* twice daily; usually two at a time were pushed head foremost about half way through the screen of the cage. The bird showed no apparent reaction to food as long as anyone remained within range of his vision; but if one of us returned within a few minutes after feeding time, one of the mice would be found clutched in the feet of the owl and almost hidden from sight by the bird's breast feathers. On one occasion a mouse was pushed directly in front of the owl, whereupon he promptly seized and held it firmly, but made no further move. Before starting to eat, the bird always placed its prey in a natural position, with back uppermost, and tail and body extended in a straight line. The first portion of the mouse to be eaten was always the brain, which was followed by the contents of the abdominal cavity, and then by those of the thoracic cavity, and finally by the remainder of the body. The only parts not swallowed were scattered bits of skin. The mice were not skinned, although skin was torn

off and eaten toward the last of the meal. One mouse was completely finished before the other was eaten. Approximately five hours following a meal, one or two pellets would be disgorged. These pellets were about half an inch in length and half as broad.

At no time during his captivity did the bird utter any sound. During the day-time, we never heard a sound from the cage unless we startled its occupant; but at night he invariably made two sustained attempts to escape, one occurring about 10:00 p.m., following our own cessation of activities, and the other at about 4:00 a.m. Each of these lasted about an hour.

An experiment to determine the eye-shine gave negative results. This is in accord with the findings of van Rossem (Condor, 29, 1927, p. 26) on another member of the same genus, *G. brazilianum ridgwayi*.

The mask-like character of the color pattern on the nape and hind neck of the owl was a striking feature of the living bird and bore a marked resemblance to the appearance of the real face.—CLARENCE F. SMITH, *Museum of Vertebrate Zoology, Berkeley, California, May 15, 1935.*

On the Drinking Habits of Gallinaceous Young.—In late June, 1930, at Jackson, Michigan, I came into possession of a set of ten Prairie Chicken eggs, partially incubated, through the nest having been run over by a mowing machine. This nest was situated in the middle of a fourteen-acre hay field of mixed clover, timothy and alfalfa, about a quarter of a mile from the booming ground that has been used by the males for some years. I placed the eggs in an incubator containing turkey eggs and on July 6 nine of them hatched, the tenth embryo dying after pipping the shell. The next year (1931) I obtained six eggs from the disturbed nest of a Ring-necked Pheasant. All the eggs hatched on May 8.

For some years I had been interested in the problem of the drinking habits of birds. I therefore carried out a few simple experiments with these broods of chicks, to see what instinctive drinking habits, if any, they might exhibit. I placed small shallow pans of water in front of the chicks, but they gave no response. I elevated the pans of water, finally placing the pans on a level with the eyes. The chicks seemed not to recognize the water. When the water was upon the floor, they even walked through it without visible reaction. However, a chick often picked at its toes and apparently water entered the bill, for it sometimes lifted its head in the drinking act.

I placed particles of food in the water. The chicks sometimes picked at the particles, and occasionally this was followed by the drinking act. Removal of the particles resulted in a loss of all interest.

I tried to dip the bill in the water, and while the chick went through the drinking act after the immersion, it never drank of its own accord.

The next process tried was to fill a pipette half full of water and insert it in the box, holding it near the chicks. They showed no more apparent concern than for any other object similarly placed before them. I then squeezed the pipette, causing a drop of water to appear at the open end. The chicks instantly showed great excitement and clustered around the pipette, picking at the water. Each time a chick picked the drop (which I maintained by continued pressure upon the bulb), it went through the drinking act. I released the pressure on the bulb and the chicks became quiet upon the disappearance of the drop. The formation of another drop resulted in a commotion as before. I found that alternate appearance and disappearance of the drop resulted in the same set of reactions—interest and excitement followed by quiescence.

I raised and lowered the pipette to determine if elevation influenced the recognition. The chicks did not respond to a drop lower than half the distance from the eye to the floor nor when higher than the normal reach of the bill. I repeated the experiments several times from shortly after hatching until they were nine days old. In all cases they failed to recognize a water surface although they were stimulated by a drop of water at the end of a pipette.

A drop of water at the end of a pipette is a good simulation of a dew drop that glistens in the sunlight. The behavior of the chicks leads me to think that dew drops form an early, instinctively sought source of water. The presence or absence of dew