PHOTOGRAPHING
THE MOURNING DOVE

By H. W. MOSSMAN

In the spring of 1942 when a pair of mourning doves built their nest in a large blue spruce in full view from our front steps and only a few feet away I was doubly pleased, for not only have I always admired these beautiful and friendly birds, but I also saw a chance to practice a little amateur bird photography without going to very much trouble to do it. The doves were relatively tame, and showed no inclination to desert the nest when several branches were tied back in order to let the afternoon sunlight onto it for photographic purposes.

The first pair of squabs was duly hatched and fledged, and it was no surprise soon afterwards to find a second pair of eggs being brooded. The family was frequently watched at close range by various people including many neighborhood youngsters. The mother bird would eventually sit so “tight” over the eggs or young that one had to practically push her off to get a look at whatever was beneath her. She would of course show considerable resentment of such intrusion, and would ruffle her feathers and strike our hand with her wing as we reached toward her. I tried repeatedly to capture this typical pigeon battling method on a still film, but with no success. It should have been easy, but the “breaks” were always against me in one way or another.

Not long after the second brood had left the nest we were a bit surprised to find a third pair of eggs. These were hatched and raised uneventfully. Then the real surprise came, it was now late August, when a fourth set of eggs appeared! This time only one squab hatched, but he was well cared for and left the nest in late September, a very handsome and husky young fellow, as the picture shows. The picture was taken two or three days after he had begun to walk away from the nest out onto the heavy spruce fronds.

The reader who is interested in photography will probably guess from the quality of the lighting that the picture of this young dove was taken with a flashbulb. However, since I had no flash equipment, the old mirror trick was used. My son threw a strong beam of sunlight on the dove from a 20x12 inch mirror. It is not a bad system provided the necessary “props” and personnel are available.

As almost everyone knows, and as the picture of the young a few days old will testify, squabs are (to phrase it in present day slang) homely, period! They are hatched
in a very immature state but grow and develop very rapidly, perhaps no more rapidly than the young of Passerine birds, but it certainly seems on casual observation that they do out-strip the latter group in this regard. Probably their rapidity of development is partly due to the unique food with which parent pigeons of all species are believed to provide their young. I am of course referring to "pigeon milk," the slimy milky white secretion of the crop gland of both male and female bird.

It may be of interest to review some of the facts that have been learned concerning pigeon milk since 1786 when John Hunter, the great English anatomist and physician, published what was probably the first scientific observation concerning the phenomenon. One of the more recent investigations of this subject was published in 1931 by Dr. H. W. Beams and Dr. R. K. Meyer, both then at the University of Wisconsin. In their publication entitled "Formation of Pigeon Milk," they described the development and regression of the crop-gland in correlation with the incubation period, and included a study of the microscopic structure of the gland and "milk." Each side of the crop consists of a bulge or lobe the lining of which develops into the "milk" gland at the appropriate time in both the female and male. They also showed that at about the eighth day of incubation the thickening of the lining of the crop in the
two lateral lobes becomes noticeable. By the twelfth day it is marked, by fifteen days it can readily be felt from the outside, and by the eighteenth it is at its maximum and actual secretion has begun. This is correlated of course with the time of incubation which is eighteen days, thus both parents are equipped to feed their offspring on this nutrient liquid as soon as the young are hatched. At a variable time of from one to two weeks after hatching the secretion begins to diminish and may cease altogether in another week or two. At any rate by the time the next clutch of eggs is to be laid the crop gland is quiescent in the female although in the male it may continue a little longer correlated with the fact that he does not stop feeding the young as soon as the female does.

One wonders what the mechanism is which accounts for the nice coordination of the physiological activity of the crop gland with the events of the brooding cycle. Why does development of the crop gland begin early in incubation and reach a point where secretion begins on almost the exact day of hatching of the young? Why does “milk” produc-

![Image](image-url)

...tion cease about the time the young are matured sufficiently to live on a diet of grain and seeds? A number of studies have been made of this problem, but we can do no better than to consider the information on the subject presented by a recent investigator, Dr. M. D. Patel of the Bombay Cattle Farm, Gowlakshan, India.

Patel showed that the “milk” gland would begin to produce milk at the end of 18 days whether or not the eggs hatched. Also he showed that it fell off and stopped in about three weeks after hatching even though very young squabs were substituted for the older ones several times during that period. On the other hand, if the eggs do not hatch, milk formation begins at 18 days anyway and continues as long as the old birds continue to brood the eggs.

The fact that the male as well as the female produces “milk” has offered some interesting lines of attack on the problem. If the male is
removed from the sight of the female after mating his crop gland does not develop, however, if he is put where he can see his mate incubating his gland develops normally even though he is not allowed to brood the eggs. It is even possible to start and stop development of his crop by alternately allowing him to incubate the eggs and then removing him from them and from the sight of the brooding female. This apparently means that the sight of the brooding female in some way, probably through nerve pathways, stimulates his pituitary gland to secrete a hormone which causes stimulation of his testes to secrete another hormone which in turn stimulates development of the crop gland. That the testis is an intermediary in this mechanism is shown by the fact that a castrated male will not produce "milk," but that if a small remnant of testis is left he will. Patel did bring out one point in this regard which seems to call for a somewhat more complicated explanation, he showed that males castrated immediately after mating would produce milk at the end of that incubation period, but would not do so during the next period even though they were kept with their brooding mate.

This experimental work of course was done on the domestic pigeon or rock dove, but the facts are undoubtedly fundamentally the same for the mourning dove and probably most other wild species. We are often tempted to belittle the doves for their apparently slipshod nest building and to suggest that it is a wonder they survive with that and the fact of laying only two eggs in a clutch. It seems however that when one of these "slipshod" nests can serve four broods in a season it is a pretty good nest after all. But far more significant are the remarkably fine adaptations for the care of their young expressed in the accurate coordination of the psychological, physiological, and behavioral complexes this group of birds possesses.

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My interest in pigeons and doves got an early start, just how early I can't remember, but certainly when I was a rather small boy. I recall clearly sitting in a buggy on the end of a little box between father and mother driving into the dooryard of "Uncle Marv" and "Aunt Mary" Woleben, and how Old Ned, the horse, would shake his head and shy as dozens of Uncle Marv's fancy pigeons would fly off the porch and rise off the well-groomed ground between the old farm-house and barn. I also remember my interest in their antics as they would wheel about and alight on the roof of the barn with much flapping and cooing. How they would strut, especially the white fantails! Uncle Marv would take great delight in telling the young 'un' about his carriers and pouters, but the fantails were my favorites. I still think a pure white fantail, snow-white as they keep themselves when they have the free range of the clean country air, is about the most beautiful of domestic birds. Why Uncle Marv, chin-whiskered, tobacco chewing, cussing, practical-minded old grape farmer that he appeared to be, should have spent good money and time to keep a few "blooded" pigeons and doves, has always been somewhat of a mystery to me. Possibly he just took pride in having something different, for I remember that he also always had a flock of huge Buff Cochin fowls and a few Hamburgs, and a pair or more of "banties," and sometimes a peacock. Probably there was no mystery about it, he just knew the value of a hobby, and had an appreciation of fine and beautiful things.
As I grew older, I usually had a pair of common pigeons of my own, and of course began to notice and admire the wild mourning doves that nested in the orchard behind the hen-house and habitually came down to feed cautiously around the edge of the flock of poultry when I was doing my chores. Finally one spring when I was “clipping tops” in the vineyard on the hill beyond the “packing house” I found a nest saddled on the side-arm at the level of the first wire only a couple of feet off the ground, and on it the sleekest and neatest of birds, a mother mourning dove. I made up my mind right then I was going to take one of the young and try to tame it. That nest was watched so closely and often that the old birds became quite tame, and the young too. Finally when the young were already well able to fly, but had not done so, I took one out and put him in a large cage in our wood-house. He was tame and unexcitable from the first and was soon given the freedom of the whole wood-house and of the cellar which opened from it.

At first I was a little worried about what and how to feed him, as I knew from watching the process many times that squabs were fed by regurgitation from the parents’ crops even for some time after they had left the nest. However I soon taught him to take meal and finely crushed “chicken feed” from my closed hand. He would reach his beak into the aperture made by my loosely closed little finger and by tilting my hand in that direction and moving my fingers a little to keep the grain flowing I apparently made a pretty decent substitute parent mourning dove. There was still some question in my mind whether his young gizzard could handle the dry grain, as I at that time supposed the food the parents gave him was really partly digested. I didn’t know about “pigeon milk” either. At any rate he instinctively began picking up sand and fine gravel from the cage floor and in fact was soon weaned from the closed fist method of feeding. From then on he was no problem so far as feeding was concerned.

To make this part of the story short he thrived and seemed as happy as any wild dove. He developed strong and sleek from his opportunity to fly about the rather specious story-and-half high wood-house and the still larger cellar. Our only worry was to keep him out of range of the cats, and to keep him from going out the door when somebody opened it. The first time he got outside we thought that he might not come back, but he did, and made no effort to escape while being picked up and returned to the shed.

We discovered quite accidentally that he was very pugnacious. He would start calling and begin strutting along a rafter where he was usually perched the minute we started dragging a hoe or an axe slowly along the floor beneath him. Then he would drop down near it, puff up his neck feathers, (which were by the way beautifully iridescent), and call a time or two more, and soon rush the object in true pigeon fashion with the wing nearest the object extended straight up over his back until he was near enough to hit the hoe a resounding whack with the extended wing. He would repeat this attack time after time, in fact it was such a good show that he usually had a scab on the wrist joint of both wings for various members of the family got a kick out of teasing him this way. I never felt that there was any real cruelty in the game because he seemed to get as big a wallop out of it as anyone, and after the hoe was left stationary or put away he would fly up to his rafter and vent his
self-satisfaction by a series of good lusty calls with much strutting and showing off of his neck feathers. Just to make the whole affair a little less risky of his health we soon found that an old piece of hay rope with a big knot in the end was just as challenging to him as the steel tools and much less abrasive to his wings.

We kept him in the wood-house and cellar all that fall and winter, and then in the spring began letting him out regularly, but he would come back for shelter at night. If he didn’t we would just call to him, (we got the surest response with an imitation mourning dove call), and locate him by his anwer. Then if he wouldn’t come down to us to be taken in, all we had to do was to drag his knotted rope or even a stick under the tree he was perching in and down he would come to give battle.

This routine went on until one day while he was out a sudden and violent thunderstorm came up. We looked for him in vain during the storm, but never saw him again. He may have been blown out of the area or killed by striking some object, but we always liked to think he had perhaps found a mate earlier in the day before the storm broke and had just finally decided to lead a normal mourning dove’s life. He was strong and self-reliant enough to have done so successfully.

2902 Columbia Road, Madison, Wisconsin, June, 1946.

ONE NOVEMBER DAY ON LAKE POYGAN

By A. S. BRADFORD

The sun flashed on the new ice covering the lake and the white snow on the low shore. Long, narrow leads ran like dark fingers across the frozen surface. The water in them smoked as though a slow fire fed along the bottom.

Ice formed on the decoys and gun barrels, mittens and parkas. It was impossible to stay in the blind more than a few minutes without becoming chilled to the bone, so alternately one of us would walk the shore line with the dog while the other shivered and shook behind the covering rushes.

The freezeup had come early and suddenly. First a light snow and then a clear, cold night that froze the lake between sunset and dawn.

Every lead was filled with ducks, canvasbacks, goldeneyes, American mergansers, buffleheads, and a few mallards and blacks. Restless, uneasy, wanting to leave but hesitating, as though waiting some long expected but mysteriously delayed signal, they drifted from lead to lead, settling only to rise again. And here and there through the swirling flocks, like a miniature white areoplane, sailed a herring gull.

Out on the ice, some distance from the nearest lead, a number of coots were standing, loosely grouped, either wounded or rendered apathetic by the cold. Suddenly, a gull stooped at them. At once, they ran together and coalesced into a small tight circle, all facing out and standing back to back.

Several times this happened. Then a gull, hungrier or braver than the others, dropped directly on top of the clump. Through the glasses I could see the fierce resistance of the coots. Those attacked lying so far back against their supporting fellows they could use both bills and feet. The gull was repulsed.