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HOW NESTLINGS ARE FED

by

William L. Finley and Ed F. Averill

There is a marked difference in the nestling that is born with a warm, downy coat and has strength enough to start out into the world, following his mother a few hours after he sees daylight, and the little chick that makes his appearance from the egg blind, naked, and helpless. For the most part, the baby grouse, quail, coot, grebe, duck, and other game birds are able to leave the nest within a few hours after they are hatched. The shell from which these chicks emerge has contained enough nutriment to give the nestlings two or three days' start in the world. The parents do not have to feed them immediately, but they must be hovered and kept warm. Warmth is the essential thing and the young are soon strong enough to pick up food for themselves.

In the large class of birds known as perchers, the nestlings have to be carefully fed and nursed for two or three weeks before they acquire a coat of feathers and are able to leave home. For the first few days, these baby birds are fed only the softest and most nutritious food. In the place of milk, as in the mammals, the naked nestlings require the partially digested food of the parent's crop. In the early stages of life, they are fed almost entirely by what is known as the process of regurgitation. In some birds this method is used until the nestlings are full grown and even after they have left the nest, while in others it is used only a day or so until the bantlings are able to digest more solid food. Where regurgitative feeding continues, it is often used as a convenience, not a necessity.

We have found that warblers and chickadees when feeding their young, generally collect as much as they can in their bills and return every few minutes to the nest, while many of the seed-eating birds often collect the food and swallow it, and this enables them to gather a larger amount before returning to the nest to feed. In such cases the crop is merely used as a carrier of food, and not because the nestlings need a predigested dinner.

The hummingbird and flicker are two good examples of birds that feed

their young by regurgitation, not only when they are in the naked stage, but before they have left the nest and are not fully able to care for themselves. We have watched both of these species bring food to their young, but there is no indication of a dinner, for the morsels are swallowed by the parents and then pumped into the stomachs of the little ones.

The feeding of a young hummingbird by its parent is a frightful looking process. The mother inserts her dagger-like bill clear into the stomach of her nestling and then starts a pumping, or what looks like a stabbing process, until she literally injects him full of food. Her feeding would not resemble the murder of the infants so much if she were to go slowly and carefully, but it seems so rough because she goes with such lightening speed. I thought the sight was bad enough as I saw her feed the tiny midgets when they were little larger than ordinary beans, but it was even worse after the youngsters had left the nest and were sitting on the clothes-line.

I had little idea of just the amount of food that a small bird collects for its young until we watched with notebook in hand for days at a time at different bird homes. During the two weeks when young birds are growing from the egg to full feathers, they require a great deal of food for such rapid growth. And where the nest contains from five to eight growing appetites, the parent birds on an average feed every few minutes during the day. In a case where a careful record was kept, a young bird ate over half its own weight in food each day. In another case, during the fifteen days that the young birds remained in the nest, they had eaten ten times their weight on the day of flight.

By far the greater part of the food the nestlings receive is composed of insects and worms. Last summer in an old orchard, we found five different species nesting within a few yards of each other. A robin that built in an apple tree fed the young on cut-worms, angleworms, and insects until the nestlings were quite well grown, and then the diet was changed to berries and cherries. In an oriole's nest nearby, the young birds were fed for the first few days by regurgitation; then the parents began carrying green caterpillars, wire-worms, and occasionally cherries, but fruit seemed to be given more as a

dessert.

For three years we have watched a wood pewee build its nest on the limb of a pear tree in the same spot. The storms of winter always destroy the old nest, and each time a new one has been built from the foundation up. The food of the pewee consists largely of flies, spiders, and moths. The other two birds that nested near were a yellow warbler and a Parkman's wren. These two songsters lived entirely on bugs and harmful insects. They searched every tree and bush, turned every leaf and pried into the crannies and cracks. It would be difficult to estimate the real value of a few birds to an orchard, but it is safe to say that these five species destroyed untold thousands of destructive insects and larvae, and more than paid for the little fruit that the birds might destroy in a dozen seasons.

Among the hawks, owls, and eagles, the nestlings are fed from the prey that is brought in by the parents and torn into bits. Visiting the aery of a golden eagle a few days after the young had hatched, we found the headless bodies of four ground squirrels lying on the rim of the nest, from which the parents had been feeding the downy young. The nestlings soon learned to follow the example of the old birds, and as they gained strength they tore their own meals from the birds and animals that were brought in. We found after a number of visits that the bill-of-fare at the eagle's aery consisted almost entirely of ground squirrels with an occasional variation, including rabbit, quail, and snake.

In a study we made of a red-tailed hawk, one day we found the legs and claws of a screech owl in the nest, showing that the red-tail is no respecter of birds, but sometimes descends to a case of hawk eat hawk. In the early part of the summer, the red-tails took to fishing entirely, and fed their nestlings on carp and catfish that were so plentiful, and which they had no trouble in catching about the edges of ponds and lakes.

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THE GULLIBLE GULL

by

William L. Finley and Ed F. Averill

In the early days when the Jutes, Angles, and Saxons moved from the north of Germany over to the coast of Britain, during those primitive years of hunting and fishing their various languages were gradually moulded into the Anglo-Saxon. One might easily picture several fur-wrapped, bare-legged fishermen bringing in their catch and cutting up their fish. A flock of gulls hovered around to pick up the bits that were thrown away. The village wag may have noticed that the birds gobbled every piece that was dropped, and he may have jumped to the conclusion that these birds were simple-minded, easily fooled, and would swallow a rock as quickly as a chunk of fish. One of the slang-users of the tribe may have called a slower-minded companion a "gull." At least, it seems the word was bandied about, and when the wise ones were gathering the scattered words into a vocabulary they perhaps included this word in order to be up-to-date.

Some naturalists consider the gull closer to the head of the class than any other bird, when it comes to intelligence. Consider how versatile he is. Most people think of the gull as a sea-bird. Some species do live along the seashore, nesting on the off-shore rocks. Others nest on the inland lake shores through the northern part of our country. Although a gull has webbed feet and can hunt his living like other waterfowl, yet he can compete with a robin or flycatcher and skirmish about the fields, or he can gather in a harvest of insects on the sagebrush desert.

The gull is a sacred bird in the history of Utah. In the summer of 1848, a great plague of crickets (locusts and grasshoppers) swarmed over the settlers' fields and were destroying the crops. The gulls came in myriads and ate not only what they needed, but they gorged themselves again and again, as if possessed with the idea of ridding the country of this scourge. On October 1, 1913, a tall marble monument was dedicated to the memory of this bird which saved the early Mormon people from famine.