

## A HUMMINGBIRD NEST

By BAYARD H. CHRISTY

A nest of the Black-chinned Hummingbird (*Archilochus alexandri*) lies before me: a little cup of tawny felt, fixed in the twigs of a live-oak. I took it, a few days ago, from a bough overhanging a cañon trail, in Ventura County, California. The nest had been completed, the eggs laid, and then some mischance had befallen. A litter of crumbled egg-shells remained within the cup, in evidence of its desertion. Almost unused, the nest continues in perfect condition. I judge it to be perhaps three or four weeks old.

It was on the third day of July that, in company with an experienced field man, I traversed the cañon. We came in the course of our walk of two or three miles on no less than eight hummingbird nests, some of them of the species named, others of the Anna Hummingbird (*Calypte anna*), and all of them similarly situated, adjacent the trail. We found them in all stages of service: one in course of building, others containing young, still others outworn and abandoned.

This nest which I have brought home is most daintily placed. It rests upon lateral twigs of the oak bough and against a vertical stem, some three-sixteenths of an inch in thickness. The cup is globular in form; indeed, it is slightly ellipsoidal, for the diameter is somewhat greater in the direction of the length of the supporting twigs. It is of a little more than hemispherical extent; the rim is incurved and overhanging—as though a ball had been cut through on a plane higher than the equator, and the lid portion had been removed. Externally, the cup is an inch and a quarter in diameter and an inch high. The mouth is three-quarters of an inch across; the cavity three-quarters of an inch deep; and, immediately below the in-turned rim, the chamber is a full inch wide. The bottom is much thicker than the walls and is quite opaque, while they are translucent.

It is built of plant-down and gossamer. My companion asserts it to be of the down that is found upon the nether surfaces of sycamore leaves; he says he has watched the birds at work, gathering the material, and his observation manifestly is accurate. The gossamer he asserts to be spider-web, culled from weeds and grasses. I had surmised, when once I tore to pieces a nest of the Ruby-throat, that the filaments that penetrated the structure throughout must have been spun from the mouth of the builder herself, and drawn taut as the work progressed; and I hold that surmise still under probation; but in this case, at least, I am disposed to accept the assertion that the enveloping shroud is of spider-web. The creamy white down has darkened externally, like the exposed pulp of an apple, and this darkening affords an exquisite variety of hue.

The web is spread upon the outer surface only; with its silken cords the little structure is swathed and integrated; by them it is bound to the supporting stems; within their coil the down is compacted and felted into a blanket-like wall. But there is cunning in the structure that excites inquiry, and that exceeds perhaps our apprehension: the shrouding of cobweb lies chiefly around a basal zone; over the upper portion of the walls there is less; at the rim there is no more than a light strand or two; while beneath and over the bottom of the cup and between the supporting twigs there is none at all.

It is a lovely little fabric, of flower-like, impermanent appearance; a warm, amber translucence suffuses it, as though it had partaken of the life that fashioned it. It is a pouch to hold jewels—itself jewel-like in its setting.

Initially, the hummingbird's cup of down is a soft, safe receptacle for the eggs; no swaying of the supporting bough can spill them. When the young are newly hatched, they lie secure in a warm-walled chamber. They grow, and become feathered, and soon fill the space completely. And then, to human sight at least, a very perfect camouflage is presented. In one instance I was in the very act of breaking away the stem that carried a nest, when, to my astonishment, I discovered that what I had thought to be an empty and abandoned structure actually contained a feathered mite, resting motionless within its rim. As the young continue to grow a beautiful contrivance comes into play: the surrounding wall of the nest becomes as it were a living integument about the chicks: it expands with their growth; its rim yields to their little strugglings; its sphere opens like a flower-bud; until the little birds, all but ready to take flight, remain resting upon the full-blown corolla. What other bird's-nest compares with this? It is like a cocoon: within its chamber a metamorphosis takes place; a new creature emerges, sloughs off the confining walls, and flies away.

There is a feature which the nest of the Ruby-throat possesses, but which that of the Black-chin lacks; and the lack is significant. The Ruby-throat's nest externally is tiled over with bits of lichen, caught and held by the strands of gossamer. To what end? Concealment? Doubtless; yet concealment is not all. This outer tiling is of hygroscopic material, and in wet weather the tiles swell and form a complete waterproof shell. The bed of down then, covered by the brooding parent and cased about with lichen, remains dry and warm. When the sun reappears the lichen flakes dry and curl and the nest walls become pervious again to the wholesome circulation of air. Here, in a desert land, protection against rain is not needed, and, accordingly, the nest of the Black-chin is bare of such material. The nest of the Anna Hummingbird, it is interesting to add, has a few bits of lichen upon it; these may have concealment value; but if the lichen be thought of merely as water-proofing, then the Anna's use of it is imperfect and incomplete, and the feature is vestigial.

So durable in this desert air is the plant-down fabric that a nest on a vine-stalk beneath a shelf of rock, where the rains of winter could not reach it, remained firm through the round of a year, and became the base upon which the nest of the succeeding year was placed.

Why should the hummingbirds choose to build their nests along the forest trails? Perhaps because of ease of approach; perhaps because of the free circulation of air along these passageways.

*Sewickley, Pennsylvania, August 1, 1932.*