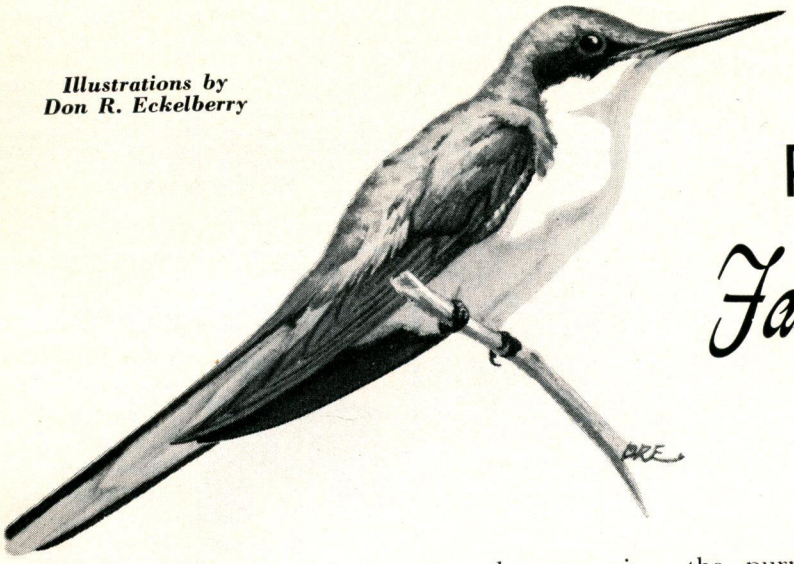
# THE PURPLE-CAPPE
# *Fairy Hummingbird*

*Illustrations by Don R. Eckelberry*



**By Alexander F. Skutch***

IN March, the dryest, warmest month of the year in Costa Rica, the madera negra trees planted as living fence posts around our garden shed their pinnate leaves and cover their long, slender branches with racemes of pink flowers. The rows of delicately tinted trees gladden one's vision and help him to endure the oppressive, smoky atmosphere of the last month of our short dry season, when all the farmers in the valley are clearing and planting their hilly or rocky lands in anticipation of the approaching rains. The flowering trees attract many bumblebees, and wintering Baltimore orioles add vivid patches of orange to the floral display as they probe the pea-like blossoms with sharp bills. The few orchard orioles that I have seen in this elevated valley were visiting the madera negra flowers. From time to time an enchanting creature arrives unannounced, to poise on invisible wings beside the long flower clusters.

Only a hummingbird could dart and hover with such exquisite mastery of the art of flight, but this bird's sylph-like form and long tail make it graceful beyond most members of a family renowned for delicate beauty. The immaculate snowy white of all the lower surface of its body, contrasting so prettily with the glittering green of its upper plumage, gives the purple-capped fairy hummingbird an elegance rare even among hummingbirds. If the charming visitor happens to be a male, his forehead and crown flash metallic violet when turned toward the watcher. The more numerous females have the forehead and crown green, like the back. They are considerably longer than the males. Both sexes have short, straight, sharp-pointed bills.

The purple-capped fairies, *Heliothrix barroti,* seem to come from a distance to visit the flowering trees of *Gliricidia sepium,* for through most of the year these hummingbirds are scarce in this vicinity. Yet, oddly enough, the pink blossoms are largely ignored by the more common resident hummingbirds, including the rufous-tailed, the blue-chested, and the snowy-breasted hummingbirds. Aside from March, the blossoming time of the madera negra, I see the fairies most frequently at the beginning of the dry season in December and January, when the poró trees in our garden shed their foliage and display their scarlet flowers on leafless boughs. The poró, a species of *Erythina,* is, like the madera negra, a member of the bean family; but its flowers have a very different appearance. All of the petals are greatly reduced except the fleshy standard, which is long and slender and tightly folded lengthwise, so that it resembles the blade of a sword or a machete. Its base is surrounded by the thick, tubular calyx, which encloses the rudiments of the other petals. The compact structure of the three-inch-long, scarlet flowers makes their nectar inaccessible nearly all of the local hummi birds; and of the numerous ki that frequent our garden, only th with the longest straight bills a those with the shortest bills take interest in them.

When the poró trees begin blossom as the wet season ends long-billed star-throat hummingb with flashing magenta gorget ta possession of them and fiercely sails all trespassers. The plai attired Cuvier's hummingbirds, abundant in the vicinity, suck sweet fluid from the scarlet flow when the larger star-throats are watching. Both of these hummi birds have bills and tongues l enough to reach the nectar by serting their beaks into the along the lower edge of the flow folded standard. But the short of the purple-capped fairy's bil compensated for by its extrao nary sharpness. Hovering be the base of the flower, the fairy ply pushes its bill into the t calyx and removes the ne through the resulting perforatio

I was not easily convinced t while so delicately poised in the the hummingbird could exert ficient pressure to penetrate s vegetable tissue somewhat ove twelfth-of-an-inch in thickness; after one had been visiting the f ers, I took a long stick, kno down a number of them, and fo many of the calyxes punctured holes hardly wider than would made by an ordinary pin. I watched hummingbirds of o kinds, including the white-e hummingbird and Longuem hermit, suck the nectar from flowers of various members of mint family by forcing their through the bases of the long, t

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lar corollas while hovering beside them; but these hummingbirds penetrated tissues far thinner and more delicate than the calyx of the poró. Flower-piercers — aberrant, plainly attired highland representatives of the brilliant honeycreeper family of tropical America — regularly drink their nectar through perforations which they make in the bases of many kinds of flowers, which are held steady by a hook at the end of the short, uptilted upper mandible while the awl-like lower mandible is forced into them. And bees, as is well known, sometimes bite little holes into corollas or nectariferous spurs whose length makes the sweet fluid difficult to reach with their tongues.

Like other hummingbirds, the fairy adds many minute insects and spiders to its diet of nectar. Possibly it extracts such solid no less than liquid nourishment from the madera negra flowers. One morning I watched a fairy foraging at the edge of the forest beside the pasture in front of our house. Hovering before the foliage at the ends of exposed boughs, it seemed to be gathering from them objects too small for me to see. Then it darted erratically back and forth in the air above the pasture, doubtless catching minute flying creatures—a habit widespread in the family. Finally it captured an insect large enough to be visible to me and carried it to a perch before eating it.

Late in January, years ago, I found my only nest of the purple-capped fairy. It was 30 feet above the ground in a small tree standing at the edge of a newly made clearing in the rain-forest, close beside a rivulet and a woodland trail. The nest was saddled in the elbow of a nearly horizontal twig with a slight upward bend, in the lowest tier of branches, far out from the center of the tree. In shape, the structure was a hollow sphere with the upper third, more or less, cut away to expose the central cavity. As far as I

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**Pink flowers lure elegant purple-capped fairy hummingbird in Costa Rica.**

could see by examining it through my field glasses, it was composed of downy materials with none of the lichens or green mosses so frequent in hummingbirds' nests.

The female was incubating, probably the two, minute, elongate, white eggs typical of the family, although these were invisible to me. She sat with both extremities of her slender body projecting well beyond the rim of her little chalice; on one side her gleaming white throat was conspicuous to the observer on the ground; on the opposite side the white under tail-coverts and lower surface of her long, tapering tail shone out. For a hummingbird, she sat very steadily. While I watched on a mild, bright morning, she incubated for 68 minutes continuously, took a recess lasting 11 minutes, then returned to sit for 56 minutes. After her next outing, which lasted only six minutes, she came with a billful of down, which she tucked inside the nest, then ran her bill over its outer surface, smoothing it. This time she incubated for only three minutes, and when she returned after 14 minutes her bill was empty.

Her departure from the nest was spectacular, for on leaving she fell into the clear space beneath the crown of the supporting tree, tail spread and wings fluttering. Sometimes she dropped only a few feet, but once she fluttered downward almost to the ground. Finally recovering herself, she flew into the adjoining forest, never over the clearing. I have seen small birds of a number of kinds leave their nests by means of a sudden drop, which apparently would be less likely than a direct outward flight to reveal its position to an enemy which happened to have the nest in its field of vision. But when she returned, the fairy seemed to care little for secrecy; for each time she circled below the nest for a few seconds in a loose, fluttering fashion, with her gleaming white under plumage most conspicuous, then deftly settled into her cup's narrow opening. She was never accompanied by a mate.

This nest was about a mile from my farm in the Valley of El General in Costa Rica. In southern Central America, the purple-capped fairy has a long breeding season. In the "Field Book of Birds of the Panama Canal Zone," Mrs. Sturgis mentioned a nest found on Barro Colorado Island in April 1924. It was attached to the side of a vertically hanging liana. On September 8, 1956, I watched two young fairies that had not been long out of the nest, and were hatched from eggs laid probably in July. High up in roadside trees beside my farm, they rested on slender twigs and flew around each other a good deal. Often they hovered with their short bills against leaves and new shoots, from which they seemed to be plucking something, but I could not distinguish what it was. Presently their mother came and fed one of them by regurgitation while perching beside it. The youngsters resembled her but were smaller, with shorter tails. The whole top of their heads was brownish instead of green, and their backs were duller than in the adult. When she flew off, one of the young fairies followed but the other stayed behind. —THE END