

## THE REDISCOVERY OF PSEUDOCALYPTOMENA.

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A LONG-WINDED name, it may seem, for the little bird which Sclater's 'Systema Avium Aethiopicarum' calls, in English, "Grauer's Green-bird."<sup>1</sup> The tropics are full of birds that are green, but this one was different. None could be rarer, for to quote Mr. Sclater again, it was "only known from the unique type from bamboo forest above 7000 feet, in the Kivu district of the Belgian Congo." This solitary specimen, preserved in Lord Walter Rothschild's Museum at Tring, England, had been collected by Rudolf Grauer, an Austrian naturalist, in November 1908. On its label Grauer noted that he did not shoot the bird himself. No other example had made its appearance in the twenty years that followed.

Perhaps a better name would be the African Green Broadbill. The broadbills are a family of small birds outwardly resembling Old World flycatchers and with similar broad beaks, but plainly differentiated in their outer primary-quills, the scales of their feet, and their syrinx or voice-organ with far simpler musculature. Less than two decades ago it was believed that the broadbills lived only in the Oriental Region, from Southern Asia to Borneo, Sumatra, and the Philippines. Lord Rothschild noted a certain resemblance between the new bird from the mountains of the Kivu district and *Calyptomena*, a green broadbill of Borneo and the Malay Peninsula, but did not think that it denoted true relationship. So he concluded that the African bird must be merely an aberrant flycatcher.

In color, as he said, it was unique. Mostly of a bright grass-green, its pattern is varied with pale blue on throat and chest, ear-coverts, and beneath the tail; the forehead is greenish buff streaked with brown; and the cheeks are spotted with blackish. In size *Pseudocalyptomena graueri* is approximately like a sparrow, its tail shorter, but the wing 75 mm. in length.

Africa had other "aberrant flycatchers," among them some dull brown birds with streaked breasts, which bore the name *Smithornis*

<sup>1</sup> *Pseudocalyptomena graueri* Rothschild, *Ibis*, 1909, p. 690, Pl. X.

in honor of Sir Andrew Smith, zoological explorer of South Africa. These attracted the attention of Mr. G. L. Bates, long resident in Southern Cameroon, who pointed out in 1914<sup>1</sup> that they were in reality members of the same family as the Indian broadbills. Professor Reichenow, in Germany, had already listed *Pseudocalyptomena* as a true broadbill;<sup>2</sup> and thus the range of an important group of birds was extended to the Ethiopian continent.

Many "rare" birds of the tropics have little save scarcity to commend them. Others possess beauty as well. But this green broadbill, in addition to being rare and beautiful, merited the attention of the anatomist as well as the student of bird distribution. It was indeed an object of envy among naturalists, yet none of the collectors who had visited the Kivu after Grauer had been able to find a single individual.

At the suggestion of Dr. L. C. Sanford, whose interest in the Bird Department of the American Museum is proverbial, we decided in 1928 to do some field work in African ornithology. At that time he was most anxious to see gaps in the bird collection filled, especially where some well-marked genus of birds was lacking. So why not include in our aims, he suggested, a search for some of the very rare African birds, among them *Pseudocalyptomena*?

With this intention we consulted Dr. J. P. Chapin, who furnished us with colored copies of illustrations of several birds we might hope to find in the Belgian Congo, especially in the mountains of the eastern border. He suggested that we visit Marungu, the plateau region southwest of Lake Tanganyika, and then the mountain range west of the Ruzizi River. The Ruzizi, it may be recalled, is the river flowing from Lake Kivu south to Tanganyika. The type specimen of Grauer's Green Broadbill is labeled: "Bamboo forest at about 2000 meters altitude, 80 kilometers west of the Ruzizi." In that region, Chapin told us, there are bamboos growing all along the crest of a high ridge, but they scarcely extend down to 2000 meters. In 1927 he had visited these very mountains, but was able to spend only a day and a half at the higher levels, and thus was sorry if not surprised that he had not found the green

<sup>1</sup> *Ibis*, 1914, pp. 495-502.

<sup>2</sup> 1911, 'Wiss. Ergeb. Deutsch. Zentr.-Afr. Exp.,' III, p. 286; 1914, 'Die Vögel,' II, p. 181.



broadbill. Perhaps it was not peculiar to the bamboos, but more at home in mountain forests a little lower down.

Thus it came about that in company with Allan L. Moses, who assisted us in our bird collecting, we crossed Tanganyika Territory and the great lake known as "Tanganika" to the black inhabitants of its shores, traversed the plateaus of Marungu, and then sailed north to Uvira, near the head of the lake. Up the grassy valley of the Ruzizi runs a motor road, so the way was easy to Luvungi. From there we took to our feet, with a caravan of porters, and traveled southwestward to the Swedish Mission of Lemera. The Mission stands on a grass-grown hill, at about 5200 feet, just east of the long mountain ridge that bounds the western side of the Albertine Rift Valley.

Despite occasional breaks, this mountain chain extends from Marungu, where we had been, northward past Lake Kivu and Lake Edward to the northwest shore of Lake Albert. One of its shoulders, just opposite Lemera, is known as Kandashomwa. Five weeks of arduous collecting on Kandashomwa, both in the mountain forest between 6100 and 7800 feet and in the bamboos which grew thickly from 7800 feet up to the summit at 9950, produced no *Pseudocalyptomena*.

Hoping for better luck on the far side of the mountain range, we moved our party three days' journey to the south-southwest, across the mountains to the Wabembe village of Luvumba on the Lusigi River. The Lusigi is one of the head-waters of the Ulindi, a river flowing westward to the upper Congo or Lualaba. Other small streams emptying into the sharp-cut valley of the Lusigi at Luvumba have widened it into a rough amphitheatre, a mile long and a half-mile wide. On the valley floor (6400 to 6800 feet above sea-level) and along the sides and ends of the adjacent ridges were native plantations interspersed with groups of trees, isolated or nearly detached. Heavy vine-clad rain forest covered the upper slopes of the ridges and the encircling hills. There were no bamboos in the valley or in the hills above.

We reached Luvumba on July 22, 1929. Would Fortune favor us here? It took four days to answer the question affirmatively. Then in the upper end of the valley, a gun-shot from the stream, Moses secured our first "Pseudo"—the second known specimen,

which proved to be an adult male. With what satisfaction we measured it, noted the color of its iris, bill, and feet, and then proceeded to the dissection!

This prize was first seen in a large tree with abundant juicy berries, a feeding place for many other species of birds. The tree stood in a narrow wooded strip connected with the heavy forest of the upper slopes and the bush growth nearer the stream, between two native plantations. The broadbill was not active, it seemed not to be feeding, and soon flew off across a corner of the plantation carrying something in its beak. When shot, it was catching insects about twenty feet above the ground in a vine-draped forest tree.

In good light against a dark background of solid foliage, this individual was conspicuous, the light green of the back being very different from the darker shades of the leaves. Its actions were those of a flycatcher—motionless when not in flight, and not shy. No call was heard, nor any sound noticed when the bird flew. The other group of African broadbills, *Smithornis*, occasionally produces in flight a loud croaking noise, which seems to come from the wings.

During the next two weeks a half-dozen additional specimens were secured about Luvumba. Two of them were preserved entire in alcohol, for the opinion entertained as to the family relationship—while apparently valid—was based wholly on external characters. One of our spirit specimens was later submitted to Dr. P. R. Lowe of the British Museum for anatomical study.

In the flesh the total length of our specimens varied from 136 to 156 mm., the spread of wings from 223 to 253 mm. Dimensions of the adult male are: wing, 74 mm.; tail, 35.5; culmen to base, 15; metatarsus, 20. Those of two adult females: wing, 75, 76.5 mm.; tail, 39, 39; culmen to base, 15, 15; metatarsus, 20, 20.5. There is practically no difference in color between the sexes. An immature female has plumage of slightly softer texture than adults, with somewhat duller colors, and under tail-coverts wholly green.

All the adults had the iris extremely dark brown, in the young bird it was noted as "dark gray with a dark brown under tone." The feet of adults were light grayish jade-green, with black claws; their beaks black. The feet of the young bird were dark bluish

green, with dark brown claws, which changed to flesh-color underneath. Its lower mandible was dark yellowish shaded with brown, and there was yellow skin at the gape.

The one immature female we collected was fully grown; and some of the adults seemed from dissection to be approaching the period for nesting. Perhaps we should not be justified in assuming that the species breeds only during a brief period of the year, for here within three and a half degrees of the equator the seasonal changes are slight. They consist mainly of a pause in the rains for a couple of months, at just the time of our visit.

The behavior of our first specimen was fairly typical. The green broadbill shows a predilection for the edges of the forest. Some notes made after watching one that was not collected may serve as further elaboration. It was first seen high in a tall bare tree on the edge of a tongue of thick forest covering the extremity of a ridge at the upper end of the Luvumba Valley. On either side were areas of native cultivation. Several minutes later a flight of seventy yards took it off to the upper branches of another tall tree on the forest edge, where it perched motionless as before. After this halt it continued to another tree sixty yards farther up the ravine, and thence again an equal distance to a small isolated tree in the middle of the gulch. The observer meanwhile was hidden in thick bushes forty yards away. For two minutes it perched slumped down close to the end of one of the uppermost boughs, then with a hop and a flit of the wings it caught an insect over its head, realighting on the perch it had just left. Further flights of eighty, thirty and seventy yards showed the same steady and direct courses along the edges of the clearing. No vocal note was ever heard, nor any audible wing-beats, although the broadbill sometimes passed within twenty-five or thirty yards.

In general, then, it may be stated that *Pseudocalyptomena graueri* likes a forest not too dense, and is found close to the outer borders, near clearings or open fields. The normal level is from twenty to seventy-five feet up in trees, and the birds' actions like flycatchers'—sitting very still, but making quick short dashes back and forth after insects. Their flights range from thirty to one hundred yards in distance, in a straight level course, with vigorous regular wing-beats, but no great speed. The green

coloration as a rule does not render them conspicuous, but serves rather as camouflage. Only under exceptional light conditions are they noticed readily.

During three succeeding months of collecting, as we traveled from Luvumba westward to Kindu on the Lualaba, no more green broadbills were seen. It seems established therefore, that it is a bird restricted to mountain forests, but not necessarily to the bamboo zone, where indeed we never saw it. It cannot range to the south of the highland near Baraka, as the elevation decreases in that direction and the forest comes to an end. Possibly it does extend northward along the western slopes of the mountains to the latitude of Lake Kivu. But in such a case it seems surprising that of all the collectors who have visited the Kivu volcanoes and their vicinity none has succeeded in finding it. To be sure, the west side of the long mountain ridge has thus far been neglected, because it is remote from the main roads through the Kivu district.

In habits *Pseudocalyptomena* appears to depart rather markedly from the allied genus *Smithornis*. The latter group, widely distributed in lowland as well as some mountain forests, keeps more within the shade of the woods. Perching there on horizontal branches, they are averse to showing themselves in the bright sunshine. These brown African broadbills are found throughout the great lowland forest which we traversed along the Congo River on our way to the west coast.

Doctor Lowe's anatomical report on one of our spirit specimens appeared in the 'Proceedings of the Zoological Society of London,' 1931, pp. 445-461. It confirms in full the placing of *Pseudocalyptomena* among the Eurylaemidae. With regard to the haunts of the bird, Doctor Lowe seems to have been misinformed. None of the mountains we visited between the Ruzizi Valley and Luvumba rises above the level of the bamboos, and it seems indeed that this green broadbill dwells mainly below the lower limit of bamboos.

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